VPDES PERMIT PROGRAM FACT SHEET
FILE NO: 171

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a **MAJOR MUNICIPAL** permit.

1. **PERMIT NO.**: VA0061859 **EXPIRATION DATE**: July 30, 2010

2. **FACILITY NAME AND LOCAL MAILING ADDRESS**

Courtland and Environs WWTP
26022 Administrative Center Drive
P. O. Box 400
Courtland, VA 23837

FACILITY LOCATION ADDRESS (IF DIFFERENT)

24448 Old Bridge Road
Courtland, VA 23837

CONTACT AT FACILITY:
NAME: Mr. Michael W. Johnson
TITLE: County Administrator
PHONE: (757) 653-3015

CONTACT AT LOCATION ADDRESS
NAME: Mr. Bob Croak
TITLE: Southampton Co. Utilities Supervisor
PHONE: (757)-654-6024

3. **OWNER CONTACT**: (TO RECEIVE PERMIT)
NAME: Mr. Michael W. Johnson
TITLE: County Administrator
COMPANY NAME: Courtland and Environs
ADDRESS: P. O. Box 400
Courtland, VA 23837
PHONE: (757)653-3015

CONSULTANT CONTACT:
NAME: Dan Villhauer
FIRM NAME: Timmons Group
ADDRESS: 1001 Boulders Parkway, Suite 300
Richmond, VA 23225
PHONE: (804)-200-6429

4. **PERMIT DRAFTED BY**: DEQ, Water Permits, Regional Office

Permit Writer(s): R. E. Smithson Date(s): 03/18/10
Reviewed By: M. H. Sauer Date(s): 04/14/10

5. **PERMIT ACTION:**

( ) Issuance (X) Reissuance ( ) Revoke & Reissue ( ) Owner Modification
( ) Board Modification ( ) Change of Ownership/Name [Effective Date:]

6. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS:**

Attachment 1	Site Inspection Report/Memorandum
Attachment 2	Discharge Location/Topographic Map
Attachment 3	Schematic/Plans & Specs/Site Map/Water Balance
Attachment 4	TABLE I - Discharge/Outfall Description
Attachment 5	TABLE II - Effluent Monitoring/Limitations
Attachment 6	Effluent Limitations/Monitoring Rationale/Suitable Data/Antidegradation/Antibacksliding
Attachment 7	Special Conditions Rationale
Attachment 8	Receiving Waters Info./Tier Determination/303(d) Listing Info
Attachment 9	TABLE III(a) and TABLE III(b) - Change Sheets
Attachment 10	EPA Permit Checklist
Attachment 11	Chronology Sheet
Attachment 12	Public Participation
Attachment 13	Other Documents

APPLICATION COMPLETE: 03/10/10 (DSS Letter)

7. **PERMIT CHARACTERIZATION:** (Check as many as appropriate)

(X) Existing Discharge
( ) Proposed Discharge
(X) Municipal
SIC Code(s) 4952
( ) Industrial
SIC Code(s)
(X) POTW
( ) PVOTW
( ) Private
( ) Federal
( ) State
( ) Publicly-Owned Industrial

(X) Effluent Limited
(X) Water Quality Limited
( ) WET Limit
( ) Interim Limits in Permit
( ) Interim Limits in Other Document
( ) Compliance Schedule Required
( ) Site Specific WQ Criteria
( ) Variance to WQ Standards
( ) Water Effects Ratio
(X) Discharge to 303(d) Listed Segment
(X) Toxics Management Program Required
( ) Toxics Reduction Evaluation
( ) Storm Water Management Plan
(X) Pretreatment Program Required
( ) Possible Interstate Effect

8. **RECEIVING WATERS CLASSIFICATION:** River basin information.

Outfall No(s): 001

Receiving Stream:	Nottoway River
River Mile:	20.67
Basin:	Chowan and Dismal Swamp
Subbasin:	Chowan River
Section:	2b
Class:	III
Special Standard(s):	none
Tidal:	No
7-Day/10-Year Low Flow:	18.73 MGD
1-Day/10-Year Low Flow:	17.44 MGD
30-Day/5-Year Low Flow:	41.34 MGD
Harmonic Mean Flow	177.26 MGD

9. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing municipal discharge resulting from the discharge of treated domestic sewage.

10. **LICENSED OPERATOR REQUIREMENTS:** ( ) No (X) Yes Class: III, Upon upgrade: Class II

11. **RELIABILITY CLASS:** II, upon upgrade: reliability class I

12. **SITE INSPECTION DATE:** January 13, 2010 **REPORT DATE:** January 19, 2010

Performed By: Mark R. Kidd

SEE ATTACHMENT 1

13. **DISCHARGE(S) LOCATION DESCRIPTION:** Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Courtland, VA Quadrant No.: 6A **SEE ATTACHMENT 2**

14. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

The Town of Courtland is upgrading this facility to tertiary treatment with incremental flow tiers (from 0.303 MGD to 0.99 MGD around June 2010 and ultimately to 2.5 MGD sometime in the future, depending on population growth). The design will meet 10 mg/l BOD5, 10mg/l TSS, 3 mg/l TKN with phosphorous removal (required for all facilities over 1 MGD). A schematic is presented -

SEE ATTACHMENT 3

15. **DISCHARGE DESCRIPTION:** Describe each discharge originating from this facility.

SEE ATTACHMENT 4

16. **COMBINED TOTAL FLOW:**

TOTAL: 2.5 MGD (for public notice)

DESIGN FLOW: 2.5 MGD (MUN.)

17. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:** (Check all which are appropriate)

- X State Water Control Law
- X Clean Water Act
- X VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- X EPA NPDES Regulation (Federal Register)
- X EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
- X Water Quality Standards (9 VAC 25-260-5 et seq.)
- _____ Wasteload Allocation from a TMDL or River Basin Plan

18. **EFFLUENT LIMITATIONS/MONITORING:** Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE:** Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

N/A

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations that will result in attaining and/or maintaining all water quality criteria that apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).

SEE ATTACHMENT 6

20. **SPECIAL CONDITIONS RATIONALE:** Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE:** Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit; the actual conditions for the permit are to be included under Attachment 6.

N/A

22. **SLUDGE DISPOSAL PLAN:** Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Sludge is dried in sand filter beds and disposed of at the SPSA landfill in Suffolk, Va. This plan has been included in the VPDES application for approval. Standard special conditions have been included in Part I of the permit.

23. **MATERIAL STORED:** List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

NONE.

24. **RECEIVING WATERS INFORMATION:** Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.). **Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied.** Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 8

25. **305(b)/303(d) Listed Segments:** Indicate if the facility discharges to a segment that is listed on the current 305(b)/303(d) list and, if so, provide all appropriate information/calculations.

This facility discharges directly to the Nottoway River. This receiving stream segment has been listed in Category 5 of the 305(b)/303(d) list for impairment for fish consumption due to mercury found in fish tissue. A TMDL has not been prepared or approved for this stream segment. The permit contains a TMDL reopener clause which will allow it to be modified, in compliance with Section 303(d)(4) of the Act once a TMDL is approved.
Among other parameters required to be monitored in the effluent (1998 and 1999) through our water quality (appendix A) monitoring condition, mercury was one. It was consistently less than the quantification level in all 9 sampling events (see fact sheet page 49b for heavy metals summary results).

26. **CHANGES TO PERMIT:** Use **TABLE III(a)** to record any changes from the previous permit and the rationale for those changes. Use **TABLE III(b)** to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 9

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

N/A - This is a municipal facility.

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT:** Document any comments received from DEQ planning.

The discharge is not addressed in any planning document but will be included when the plan is updated.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and noted how resolved.

The VDH waived the right to comment and/or object to the adequacy of the draft permit.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA waived the right to comment and/or object to the adequacy of the draft permit.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

Not Applicable.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

PUBLIC NOTICE INFORMATION: Comment Period: Start Date 5/21, 2010
End Date 6/21, 2010

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting:

Mr. Robert E. Smithson, Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462; Telephone: 757-518-2106 E-mail: robert.smithsonjr@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. **ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:**

The zinc limit and loading will remain unchanged with future flow increases/plant upgrade, as the 67 mg/l is known to be protective of water quality. [Zinc limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual.

Ammonia-N (NH_3-N) limits are currently required based upon modeling results reflecting changes in the WQS. See pgs. 26-30 for calculations. The ammonia limit will be replaced with a TKN limit upon upgrade (to the 0.99 MGD tertiary facility). Nutrient monitoring is currently required (prior to and after upgrade). A phosphorous limit will be required once the design flow exceeds 1 MGD.

Effluent monitoring reduction was considered per standard guidance. A compliance history since year 2005 was reviewed for qualification at the time of permit reissuance.

Raparian owners (from County Tax Assessors correspondence) were contacted concerning the proposed facility expansion in 2007.

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Facility:	COURTLAND AND ENVIRONS WWTP
County/city:	SOUTHAMPTON

VPDES NO.	VA0061859

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date:	**January 13, 2010**	Date form completed:	**January 19, 2010**
Inspection by:	**Mark R. Kidd**	Inspection agency:	**DEQ/TRO**
Time spent:	**8 hours**	Announced Inspection:	[ ] Yes [✓] No
Reviewed by: **Kenneth T. Raum** KTR		Photographs taken at site?	[✓] Yes [ ] No
Present at inspection:	**Raymond Bryant – Chief Operator, Tom Christianson - Trainee**		

FACILITY TYPE:	FACILITY CLASS:
(✓) Municipal	( ) Major
( ) Industrial	(✓) Minor
( ) Federal	( ) Small
( ) VPA/NDC	( ) High Priority ( ) Low Priority

TYPE OF INSPECTION:

Routine		Reinspection		Compliance/assistance/complaint	
Date of previous inspection:	**4/23/07**	Agency:	**DEQ/TRO**		

Population Served:		Connections Served	

Last Month Average: Influent **December 2009✓**	BOD 5 (mg/l)	**65**	TSS (mg/l)	**53**	Flow (MGD)	**0.411**		
	Other:							
Last Month Average: Effluent: **December 2009**	BOD 5 (mg/l)	**2**	TSS (mg/l)	**4**	Flow (MGD)	**0.310**	NH_3 (mg/l)	**0.1**
	Other: **pH (su) – 6.3-6.7, Zn (mg/l) - 44**							
Last Quarter Average: Effluent	BOD 5 (mg/l)		TSS (mg/l)		Flow (MGD)		NH_3 (mg/l)	
	Other:							

Data verified in preface:	Updated?		NO CHANGES?		✓
Has there been any new construction?		YES	✓	NO	
If yes, were the plans and specifications approved?		YES	✓	NO	
DEQ approval date:					

COPIES TO: (x) DEQ/TRO; (x) DEQ/OWCP; (x) OWNER; ( ) OPERATOR; ( ) EPA-Region III; ( ) Other:

	PROBLEMS IDENTIFIED AT LAST INSPECTION:	CORRECTED	NOT CORRECTED
	Clean clarifier troughs, weirs and tanks of algae.	✓	
	Clean and/or repair drying bed to promote drainage.	✓	

SUMMARY

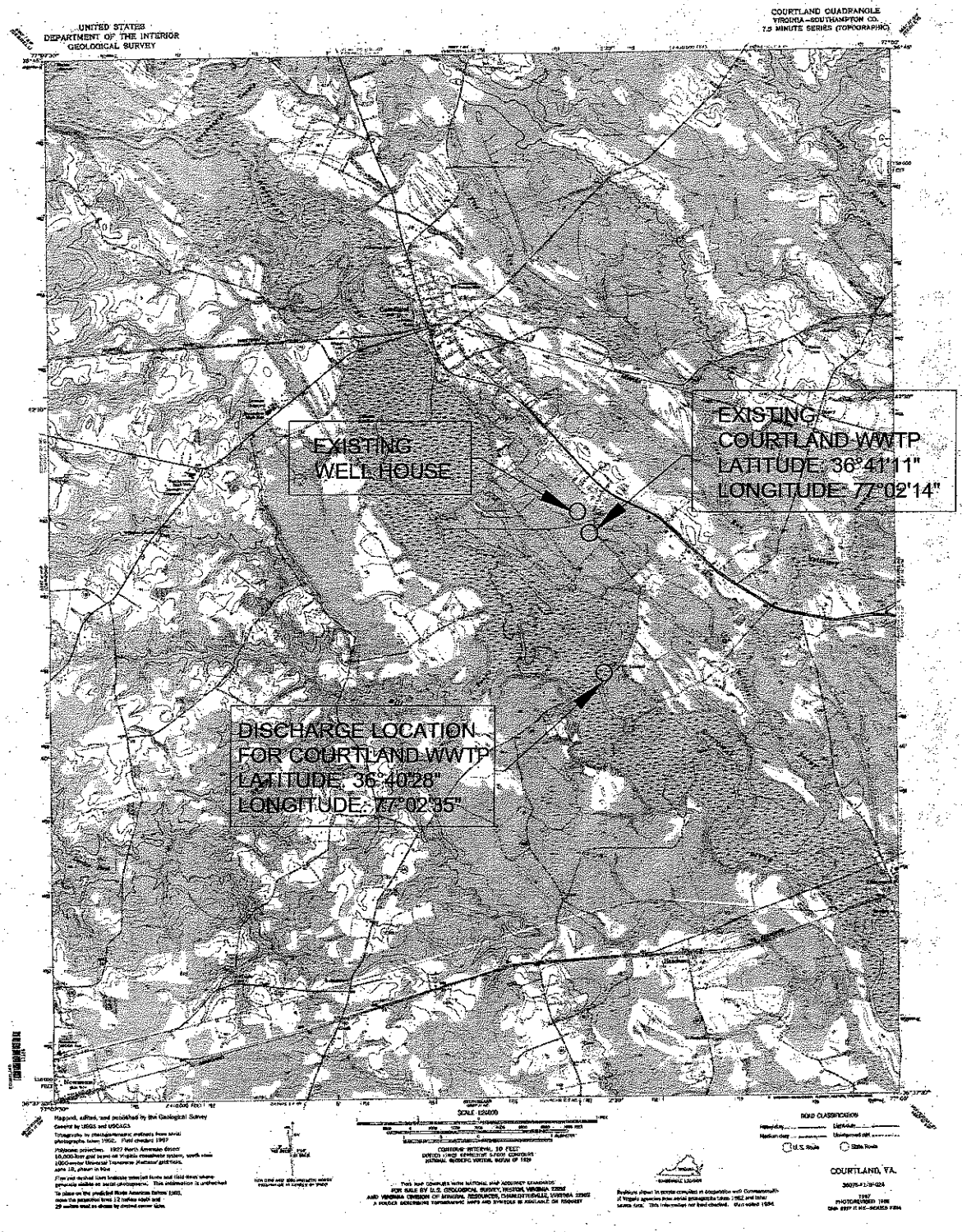
	INSPECTION COMMENTS:
	A new plant is under construction to replace the current treatment plant. The new plant will have an initial capacity of 1.25 MGD with future expansion to 2.5 MGD, compared to the current plant capacity of .30 MGD , and is expected to go online in April 2010. The new plant should eliminate the overflow problems reported during the last several years by increasing the plant capacity, elevating the treatment units and having the ability to pump the discharge to the outfall rather than relying on a gravity discharge. The new construction is shown in photos 1-6.
	I arrived on site and met with Chief Operator Raymond Bryant. After discussing the new plant construction a site survey was conducted. The oxidation ditches (Photo 7) continue to operate at full capacity. Hay bales are stored on site in case of an overflow during heavy rains. The clarifiers and weirs appeared clean (Photos 8-9). Chlorination, de-chlorination and aeration chambers (Photo 10) will be replaced by a UV disinfection system in the new plant. A new discharge pipe is located adjacent to the current outfall pipe (Photo 11). The drying beds (Photo 12) appeared to be in good working order.
	Mr. Bryant and his staff have contained the overflows from the oxidation ditches on site and used HTH to treat the overflows.

	COMPLIANCE RECOMMENDATIONS FOR ACTION
	None at this time.

ATTACHMENT 2

DISCHARGE LOCATION/TOPOGRAPHIC MAP

COURTLAND AND ENVIRONS WASTEWATER TREATMENT PLANT OVERVIEW MAP



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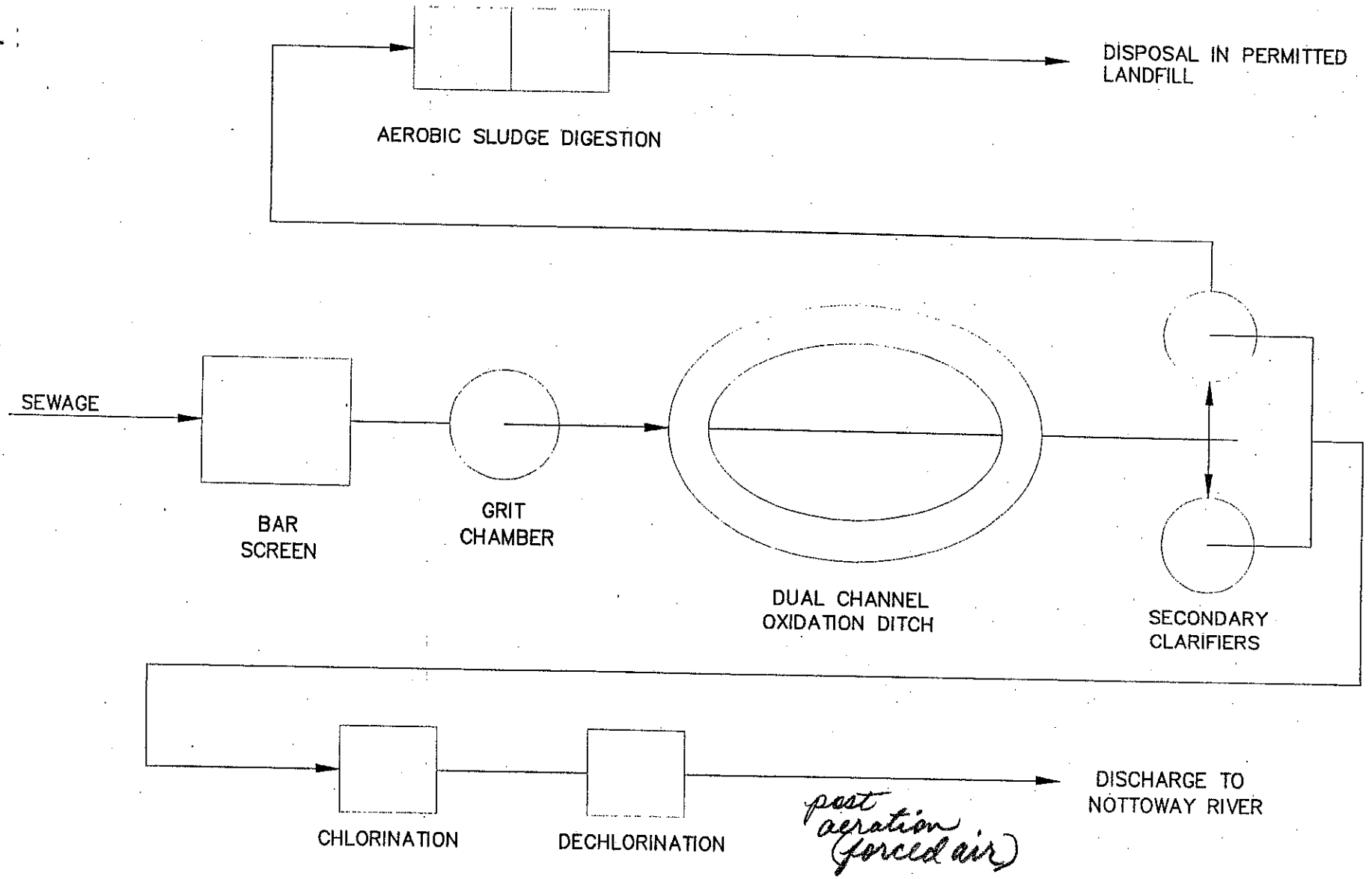
VIRGINIA - NORTH CAROLINA - WEST VIRGINIA | SCALE : 1"=24000'

Site Development | Residential | Infrastructure | Technology

ATTACHMENT 3

SCHEMATIC/PLANS & SPECS/SITE MAP/

EXISTING SECONDARY WWTP UPGRADE (10/10/13) DESIGN ON PAGE 146.



WASTEWATER TREATMENT PLAN—SCHEMATIC DIAGRAM

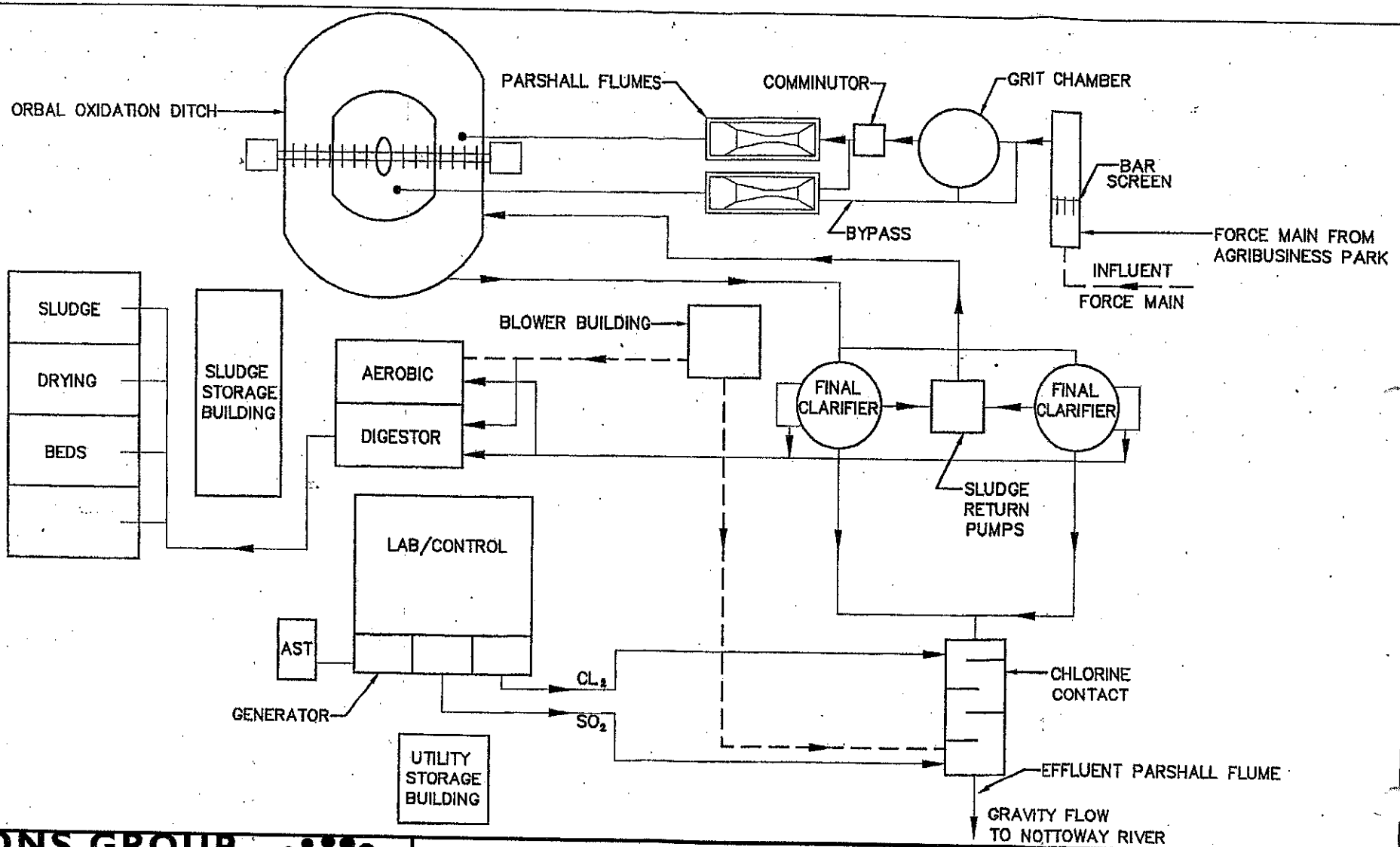


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FIGURE 3
SCHEMATIC FLOW DIAGRAM
COURTLAND WASTEWATER TREATMENT PLANT
SOUTHAMPTON COUNTY, VA

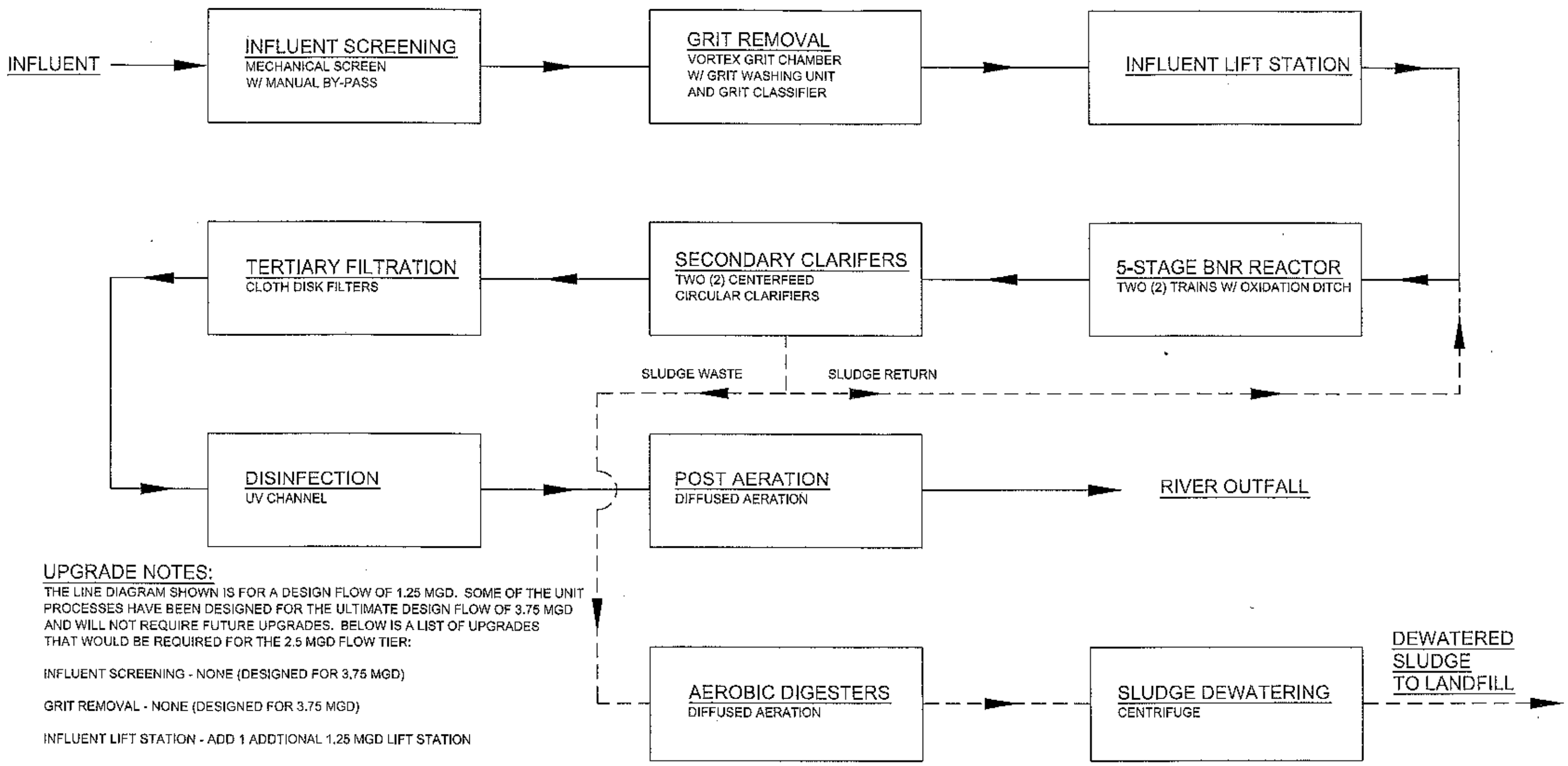
NOT TO SCALE

Schematic

Tertiary Upgrade

14b

L:\201\28363 - Courtland WWTP VPDES Permit Renewal\Exhibits\Line Diagram.dwg | Plotted on 2/8/2010 4:58 PM | by Dan Villhauer



UPGRADE NOTES:

THE LINE DIAGRAM SHOWN IS FOR A DESIGN FLOW OF 1.25 MGD. SOME OF THE UNIT PROCESSES HAVE BEEN DESIGNED FOR THE ULTIMATE DESIGN FLOW OF 3.75 MGD AND WILL NOT REQUIRE FUTURE UPGRADES. BELOW IS A LIST OF UPGRADES THAT WOULD BE REQUIRED FOR THE 2.5 MGD FLOW TIER:

INFLUENT SCREENING - NONE (DESIGNED FOR 3.75 MGD)

GRIT REMOVAL - NONE (DESIGNED FOR 3.75 MGD)

INFLUENT LIFT STATION - ADD 1 ADDTIONAL 1.25 MGD LIFT STATION

BIOLOGICAL REACTOR - ADD 1 ADDITIONAL 1.25 MGD REACTOR

SECONDARY CLARIFIER - ADD 2 ADDITIONAL CLARIFIERS

TERTIARY FILTRATION - ADD 1 ADDITIONAL 1.25 MGD FILTER IN EMPTY FILTER CHAMBER

DISINFECTION - ADD 1 ADDITIONAL 1.25 MGD UV CHANNEL IN EMTPY UV CHANNEL

POST AERATION - ADD ADDITIONAL BLOWERS AND AERATION (BASIN DIMENSIONS SIZED FOR 3.75 MGD)

RAS/WAS PUMP STATION - ADD ADDITIONAL PUMPS IN BUILDING (BUILDING SIZED FOR 2.5 MGD PUMPING ARRANGEMENT

AEROBIC DIGESTERS - UPGRADE BLOWERS AND DIFFUSERS

BIOSOLIDS BUILDING - NONE (DESIGNED FOR 3.75 MGD)

LEGEND

——— PROCESS FLOW

– – – SLUDGE FLOW

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THIS DRAWING PREPARED AT THE
Corporate Headquarters
1001 Boulders Parkway | Richmond, VA 23225
TEL 804.200.6500 FAX 804.560.1016 www.timmons.com

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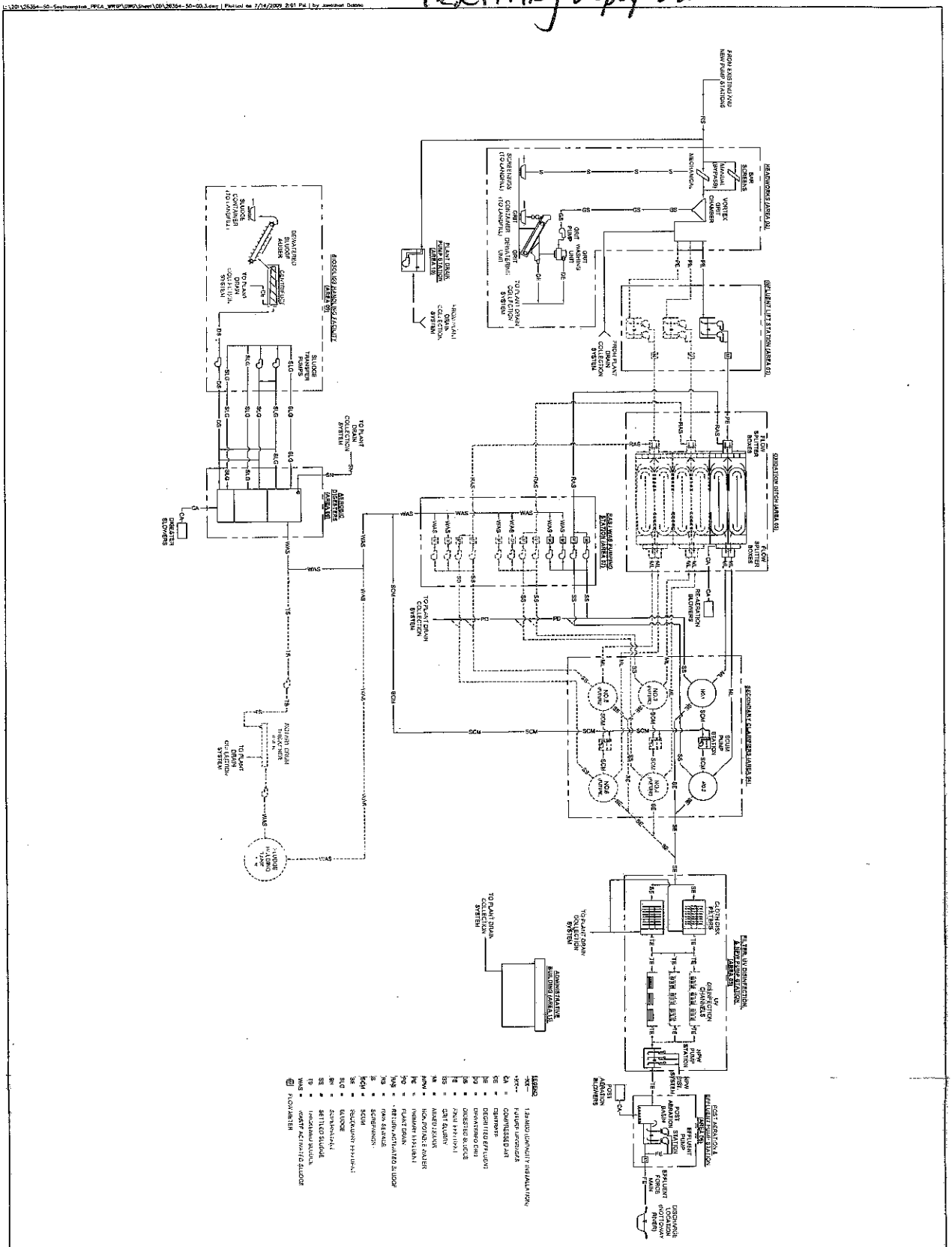
DATE	REVISION DESCRIPTION

COURTLAND & ENVIRONS WWTP
SOUTHAMPTON COUNTY - VIRGINIA
PROCESS LINE DIAGRAM

DATE 02/08/2010
DRAWN BY D. VILLHAUER
DESIGNED BY D. VILLHAUER
CHECKED BY D. VILLHAUER
SCALE NO SCALE
JOB NO.
SHEET NO. EX-1

TERTIARY Upgrade

14c



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1001 Boulders Parkway | Richmond, VA 23225
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COURTLAND WWTP REPLACEMENT

SOUTHAMPTON COUNTY - VIRGINIA

GENERAL PROCESS FLOW SCHEMATIC

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	JOB NO.	SHEET NO.
D. VILLHAUER	D. VILLHAUER	J. CHRISTIAN	NOT TO SCALE	06/02/2009	26354	G0.3

DATE	REVISION DESCRIPTION

ATTACHMENT 4

TABLE I-Discharge/Outfall Description

TABLE I

NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	36°40'25"N 77°02'38"W	Municipal wastewater from the Town of Courtland	Bar screen, grit chamber, secondary treatment with a dual channel oxidation ditch followed by clarifiers, chlorination, dechlorination and post aeration. Sludge is dewatered and land filled.	Current tier: .303 MGD
Tiered Upgrade				
001	36°40'25"N 77°02'38"W	Municipal wastewater from the Town of Courtland	Tertiary treatment will be designed to meet 10 mg/l BOD5, 10 mg/l TSS, 3 mg/l TKN and 2.0 mg/l phosphorous: bar screen, grit removal, 5 stage BNR reactor (2 trains with channel oxidation ditch) followed by secondary clarification, tertiary filtration (cloth disk filters), UV disinfection and post aeration. Sludge is dewatered by centrifuge and sent to SPSA landfill.	1st upgrade tier: 0.99 MGD 2nd upgrade tier: 2.5 expansion (future)

(1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Give maximum 30-day average flow for industry and design flow for municipal

ATTACHMENT 5

TABLE II

EFFLUENT MONITORING LIMITATIONS

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 0.303 MGD
Outfall Description: Municipal STP Outfall for the Town of Courtland
SIC CODE: 4952

(X) Final Limits Effective Dates - From: Permit Issuance To: Issuance of CTO for Tertiary Upgrade: 0.99 MGD or permit expiration, whichever comes first

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)[a][2]	3		NL	NA	NA	NL	Continuous	TI & RE*
pH (S.U.)	3		NA	NA	6.0	9.0	1/Day	Grab
BOD5 (mg/l)[c]	1		30	45	NA	NA	3D/W	8 hr. Comp.
BOD5 (kg/d)	1	0.303	34	52	NA	NA	3D/W	8 hr. Comp.
TSS (mg/l)[c]	1		30	45	NA	NA	3D/W	8 hr. Comp.
TSS (kg/d)	1	0.303	34	52	NA	NA	3D/W	8 hr. Comp.
TRC(mg/l)[b][c]	2		0.015	0.018	NA	NA	1/Day	Grab
E. coli (N/100 ml)[b][d]	2		126	NA	NA	235	1/Week (Btwn 10am & 4pm)	Grab
D.O. (mg/l)	2		NA	NA	6.0	NA	1/Day	Grab
Ammonia (mg/l) [c]	2		5.6	5.6	NA	NA	1/Month	8 hr. Comp.
Total Phosphorus (mg/l) (kg/d) [c]	3	0.303	NA	NA	NA	NL	1/3 Months	8 hr. Comp.
Total Nitrogen (mg/l) (kg/d) [c]	3	0.303	NA	NA	NA	NL	1/3 Months	8 hr. Comp.

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Zinc, Total Recoverable (ug/l) [c]	2		67	67	NA	NA	1/Month	8 hr. Comp.
Zinc, Total Recoverable (kg/d) [c]	2		.077	.077	NA	NA	1/Month	8 hr. Comp.

*TI & RE = Totalizing, Indicating & Recording Equipment

NA = NOT APPLICABLE;
NL = NO LIMIT, MONITORING REQUIREMENT ONLY

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] See Part I.C.5. for exceeding 95% of the design capacity 3 months consecutively.
[b] See Part I.B. for additional monitoring instructions.
[c] See Parts I.C.6. and I.C.7. for quantification levels and reporting requirements, respectively.
[d] The discharge from this outfall is subject to the daily maximum limit for E. coli if the permittee fails to collect at least four samples in the calendar month, with at least one sample collected in each calendar week of the month. Alternately, the permittee may collect a minimum of four weekly samples, in which case the monthly geometric mean limit is applicable. The permittee shall report "NR" for the limit that does not apply, depending on the number of samples collected.

1/3 Months = In accordance with the following schedule: 1st quarter (January 1 - March 31), report due by April 10; 2nd quarter (April 1 - June 30), report due by July 10; 3rd quarter (July 1 - September 30), report due by October 10; 4th quarter (October 1 - December 31), report due by Jan. 10.

2. The design flow of this treatment facility is 0.303 MGD. See Part I.C.5. for additional flow requirements.
3. At least 85% removal for BOD and TSS must be attained for this effluent.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 0.99 MGD
Outfall Description: Municipal STP Outfall for the Town of Courtland
SIC CODE: 4952

(X) Final Limits Effective Dates - From: Issuance of CTO for Tertiary Upgrade 1st tier: 0.99 MGD
To: Issuance of CTO for Expansion to tier 2: 2.5 MGD or permit expiration, whichever comes first

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)[a][2]	3		NL	NA	NA	NL	Continuous	TI & RE*
pH (S.U.)	3		NA	NA	6.0	9.0	1/Day	Grab
BOD5 (mg/l)[c]	3		10	15	NA	NA	3D/Week	8 hr. Comp.
BOD5 (kg/d)	3	0.99	38	56	NA	NA	3D/Week	8 hr. Comp.
TSS (mg/l)[c]	3		10	15	NA	NA	3D/Week	8 hr. Comp.
TSS (kg/d)	3	0.99	38	56	NA	NA	3D/Week	8 hr. Comp.
TRC(mg/l)[b][c]	2		0.015	0.018	NA	NA	1/Day	Grab
E. coli (N/100 ml)[b][d]	2		126	NA	NA	235	1/Week (Btwn 10am & 4pm)	Grab
D.O. (mg/l)	2		NA	NA	6.0	NA	1/Day	Grab
TKN (mg/l) [c]	3		3.0	4.5	NA	NA	3D/Week	8 hr. Comp.
TKN (kg/d) [c]	3	0.99	11	17	NA	NA	3D/Week	8 hr. Comp.

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Tot.Phosphorus (mg/l)(kg/d) [c]	3		NA	NL	NA	NL	1/Month	8 hr. Comp.
Total Nitrogen (mg/l)(kg/d) [c]	3		NL	NL	NA	NL	1/Month	8 hr. Comp.
Zinc, Total Recoverable (ug/l) [c]	2		67	67	NA	NA	1/Month	8 hr. Comp.
Zinc, Total Recoverable (kg/d) [c]	2	Loading cap (based on .303)	.077	.077	NA	NA	1/Month	8 hr. Comp.

*TI & RE = Totalizing, Indicating & Recording Equipment

NA = NOT APPLICABLE;
NL = NO LIMIT, MONITORING REQUIREMENT ONLY

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] See Part I.C.5. for exceeding 95% of the design capacity 3 months consecutively.
[b] See Part I.B. for additional monitoring instructions.
[c] See Parts I.C.6. and I.C.7. for quantification levels and reporting requirements, respectively.
[d] The discharge from this outfall is subject to the daily maximum limit for E. coli if the permittee fails to collect at least four samples in the calendar month, with at least one sample collected in each calendar week of the month. Alternately, the permittee may collect a minimum of four weekly samples, in which case the monthly geometric mean limit is applicable. The permittee shall report "NR" for the limit that does not apply, depending on the number of samples collected.

2. The design flow of this treatment facility is 0.99 MGD
3. There shall be no discharge of floating solids or visible foam in other than trace amounts.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 2.5 MGD
Outfall Description: Municipal STP Outfall for the Town of Courtland
SIC CODE: 4952

(X) Final Limits Effective Dates - From: Issuance of CTO for Expansion to tier 2: 2.5 MGD
To: Permit Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)[a][2]	3		NL	NA	NA	NL	Continuous	TI & RE*
pH (S.U.)	3		NA	NA	6.0	9.0	1/Day	Grab
BOD5 (mg/l)[c]	3		10	15	NA	NA	5D/Week	24 hr. Comp.
BOD5 (kg/d)	3	Loading cap (based on 0.99)	38	56	NA	NA	5D/Week	24 hr. Comp.
TSS (mg/l)[c]	3		10	15	NA	NA	5D/Week	24 hr. Comp.
TSS (kg/d)	3	Loading cap (based on 0.99)	38	56	NA	NA	5D/Week	24 hr. Comp.
TRC(mg/l)[b][c]	2		0.015	0.018	NA	NA	1/Day	Grab
E. coli (N/100 ml)[b][d]	2		126	NA	NA	235	3/Week @ 48 hr. intervals (Btwn 10am & 4pm)	Grab
D.O. (mg/l)	2		NA	NA	6.0	NA	1/Day	Grab
TKN (mg/l) [c]	3		3.0	4.5	NA	NL	5D/Week	24 hr. Comp.

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
TKN (kg/d) [c]	3	Loading cap (based on 0.99)	11	17	NA	NA	5D/Week	24 hr. Comp.
Total Phosphorus (mg/l)[c]	3		2.0	NL	NA	NA	1/Week	24 hr. Comp.
Total Phosphorus (kg/d)[c]	3	Loading cap (based on 0.99)	7.5	NL	NA	NA	1/Week	24 hr. Comp.
Total Nitrogen (mg/l)[c]	3		10	15	NA	NA	1/Week	24 hr. Comp.
Total Nitrogen (kg/d)[c]	3	Loading cap (based on 0.99)	38	56	NA	NL	1/Week	24 hr. Comp.
Zinc, Total Recoverable (ug/l) [c]	2		67	67	NA	NA	1/Month	24 hr. Comp.
Zinc, Total Recoverable (kg/d) [c]	2	Loading cap (based on 0.303)	.077	.077	NA	NA	1/Month	24 hr. Comp.

*TI & RE = Totalizing, Indicating & Recording Equipment

NA = NOT APPLICABLE;
NL = NO LIMIT, MONITORING REQUIREMENT ONLY

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] See Part I.C.5. for exceeding 95% of the design capacity 3 months consecutively.
[b] See Part I.B. for additional monitoring instructions.
[c] See Parts I.C.6. and I.C.7. for quantification levels and reporting requirements, respectively.
[d] The discharge from this outfall is subject to the daily maximum limit for E. coli if the permittee fails to collect at least four samples in the calendar month, with at least one sample collected in each calendar week of the month. Alternately, the permittee may collect a minimum of four weekly samples, in which case the monthly geometric mean limit is applicable. The permittee shall report "NR" for the limit that does not apply, depending on the number of samples collected.

2. The design flow of this treatment facility is 2.5 MGD
3. There shall be no discharge of floating solids or visible foam in other than trace amounts.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

Courtland & Environs WWTP
Permit VA0061859

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/ ANTIDEGRADATION/ANTIBACKSLIDING

Town of Courtland WWTP
VA0061859

ATTACHMENT 6

VPDES PERMIT PROGRAM

Rationale for Effluent Limitations and Monitoring
DESIGN FLOW = 0.303 MGD

Monitoring frequency for BOD5 & TSS will be 3D/Week and monitoring for flow will be continuous. D.O., CL2 and pH will be monitored daily. Total recoverable zinc and ammonia will be monitored 1/month; phosphorus & nitrogen will be monitored quarterly to assess nutrient contributions to the receiving stream. Effluent limitations are based upon federal effluent guidelines, best professional judgment and the water quality standards.

This permit is very similar to the previous permit since receiving stream water quality and facility treatment have not changed. Limits reflect secondary treatment utilizing a dual channel oxidation ditch followed by clarifiers. Disinfection is achieved by chlorination. Recent changes to the disinfection policy (9 VAC 25-260-170.B.) requires that E. coli be used as the best indicator for alternative disinfection effectiveness, when it becomes applicable in the future (tertiary treatment with UV disinfection).

OUTFALL 001

Flow: No limit - BPJ; monitoring continuously with totalizing, indicating and recording equipment - standard requirement for a municipal permit with this design flow. This facility has a design flow of 0.303 MGD.

pH: Minimum of 6.0 s.u., maximum of 9.0 s.u. - BPJ to protect water quality in the receiving stream; grab sample.

BOD5 & TSS: Monthly average limit of 30 mg/l (34 kg/d) and a weekly average limit of 45 mg/l (52 kg/d) were based upon federal effluent guidelines, 8 Hr. composite.

TRC - WQS-0.015 mg/l monthly average - 0.018 mg/l weekly average: chlorine limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual dated June, 2004. (See Attachment 6-2); grab sample.

D.O. - WQS-limit 6.0 mg/l min. to protect Class III waters; monitoring 1/D - BPJ to protect water quality in the receiving waters; grab sample

Ammonia-N limit is needed based upon current modeling results reflecting a change in the WQS. WQS- 5.6 mg/l monthly average – 5.6 mg/l weekly average: Ammonia-N limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual. See pages 26-30 (Also note discussion discounting tiered summer/winter limits); 8 Hr. composite.

Zinc, total recoverable - WQS- 67 ug/l monthly average - 67 ug/l weekly average: zinc limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual. (See pg. 23 & 33); 8 Hr. composite sample

Nutrient monitoring for phosphorus & nitrogen will be required once a quarter to assess nutrient contributions to the receiving stream; BPJ ; 8 Hr. composite

CALCULATIONS

Loading (kg/d)= concentration (mg/l) X flow (MGD) X 3.785

BOD loading (monthly average) = 30 (mg/l) X 0.303 (MGD) X 3.785 = ***34.4 kg/d = 34 kg/d (significant figures guidance)***
BOD loading (weekly average) = 45 (mg/l) X 0.303 (MGD) X 3.785 = ***51.6 kg/d = 52 kg/d (significant figures guidance)***

TSS loading (monthly average) = 30 (mg/l) X 0.303 (MGD) X 3.785 = ***34.4 kg/d = 34 kg/d (significant figures guidance)***
TSS loading (weekly average) = 45 (mg/l) X 0.303 (MGD) X 3.785 = ***51.6 kg/d = 52 kg/d (significant figures guidance)***

ANTIDEGRADATION REVIEW

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

There are ***no antibacksliding issues*** to address.

Town of Courtland WWTP
VA0061859

ATTACHMENT 6

VPDES PERMIT PROGRAM

Rationale for Effluent Limitations and Monitoring
DESIGN FLOW = 0.99 MGD

Monitoring frequency for BOD5, TSS & TKN will be 3D/Week and monitoring for flow will be continuous. D.O., CL2 and pH will be monitored daily. Total recoverable zinc will be monitored 1/month; phosphorus and nitrogen will be monitored 1/Month to assess nutrient contributions to the receiving stream. Effluent limitations are based upon best professional judgment and the water quality standards.

The following limits reflect an upgraded treatment facility designed to meet tertiary limitations, as well as provide nutrient removal. New treatment design will accomplish this through a 5 stage BNR reactor (additional trains of channel oxidation) followed by clarification and tertiary filtration (cloth disk filters). Disinfection will be achieved by ultraviolet light. Changes to the disinfection policy (9 VAC 25-260-170.B.) requires that E. coli be used as the best indicator for alternative disinfection effectiveness (see E. Coli limits below). This is the first of 2 flow tier upgrades (expansions).

OUTFALL 001

Flow: No limit - BPJ; monitoring continuously with totalizing, indicating and recording equipment - standard requirement for a municipal permit with this design flow. Tertiary upgrade with design flow of 0.99 MGD.

pH: Minimum of 6.0 s.u., maximum of 9.0 s.u. - BPJ to protect water quality in the receiving stream; grab sample.

BOD5 & TSS: Monthly average limit of 10 mg/l (38 kg/d) and a weekly average limit of 15 mg/l (56 kg/d) are based upon treatment plant upgrade capable of meeting tertiary limitations: rationale is best professional judgment and a conservative approach to stream modeling constraints, 8 Hr. composite.

TRC - WQS-0.015 mg/l monthly average - 0.018 mg/l weekly average: chlorine limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual. (See Attachment 6-2); grab sample. *Only applies if Cl2 used as backup to UV disinfection*

E. Coli: 126 n/100ml monthly average, 235 n/100ml maximum to monitor effectiveness of UV disinfection; 1/Week (between 10am & 4 pm); grab sample

D.O. - WQS-limit 6.0 mg/l min. to protect Class III waters; monitoring 1/D - BPJ to protect water quality in the receiving waters; grab sample

Zinc, total recoverable - WQS- 67 ug/l monthly and weekly average; .077 kg/d monthly and weekly average *loading limit cap* calculated based upon current design flow of .303 MGD to insure no water quality degradation (BPJ): this receiving stream segment had been listed as impaired in Category 4B of the 305(b)/303(d) integrated report for non-attainment of zinc. The listing is due solely to water quality-based limits of 67 ug/l for zinc in this permit. The limits have been met which has resulted in attainment of the standards. . The zinc limit should remain unchanged with the increase in future flows, as the 67 ug/l is known to be protective of water quality . [Zinc limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual. (See pg. 23 & 33)]; 8 Hr. composite sample

TKN -N Monthly average limit of 3.0 mg/l (11 kg/d) and a weekly average limit of 4.5 mg/l (17 kg/d) were based upon best professional judgment and pending stream standards for nutrients; 8 Hr. composite
(replaces requirements for ammonia limit).

Nitrogen monitoring 1/Month frequency based on increase in flow; rationale based upon best professional judgment and the fact that a nutrient enriched waters classification is approx. 10 miles downstream and pending stream standards for nutrients will be forthcoming; monitoring only at this flow tier; 8 Hr. composite

Town of Courtland WWTP VA0061859
VPDES PERMIT PROGRAM

Rationale for Effluent Limitations and Monitoring
DESIGN FLOW = 0.99 MGD
Continued

Phosphorus : monitoring 1/Month frequency based on increase in flow; rationale based upon best professional judgment and the fact that a nutrient enriched waters classification is approx. 10 miles downstream and pending stream standards for nutrients will be forthcoming; monitoring only at this flow tier; 8 Hr. composite

CALCULATIONS

Loading (kg/d)= concentration (mg/l) X flow (MGD) X 3.785

BOD loading (monthly average) = 10 (mg/l) X 0.99 (MGD) X 3.785 = ***38 kg/d (significant figures guidance)***
BOD loading (weekly average) = 15 (mg/l) X 0.99 (MGD) X 3.785 = ***56 kg/d (significant figures guidance)***

TSS loading (monthly average) = 10 (mg/l) X 0.99 (MGD) X 3.785 = ***38 kg/d (significant figures guidance)***
TSS loading (weekly average) = 15 (mg/l) X 0.99 (MGD) X 3.785 = ***= 56 kg/d (significant figures guidance)***

TKN loading (monthly average) = 3.0 (mg/l) X 0.99 (MGD) X 3.785 = ***11 kg/d (significant figures guidance)***
TKN loading (weekly average) = 4.5 (mg/l) X 0.99 (MGD) X 3.785 = ***= 17 kg/d (significant figures guidance)***

ATTACHMENT 6

VPDES PERMIT PROGRAM

Rationale for Effluent Limitations and Monitoring
DESIGN FLOW = 2.5 MGD

Monitoring frequency for BOD5 , TSS & TKN will be 5D/Week (frequency is the standard monitoring frequency in accordance with VPDES manual for this flow) and monitoring for flow will be continuous. D.O., CL2 and pH will be monitored daily. Total recoverable zinc will be monitored 1/month; phosphorus will be monitored 1/Week to assess nutrient contributions to the receiving stream. Effluent limitations are based upon best professional judgment and the water quality standards

The following limits reflect an upgraded treatment facility designed to meet tertiary limitations, as well as provide nutrient removal. New treatment design will accomplish this through a 5 stage BNR reactor (additional trains of channel oxidation) followed by clarification and tertiary filtration (cloth disk filters). Disinfection will be achieved by ultraviolet light. Changes to the disinfection policy (9 VAC 25-260-170.B.) requires that E. coli be used as the best indicator for alternative disinfection effectiveness (see E. Coli limits below). This is the second and final expansion of 2 flow tier upgrades.

Flow: No limit - BPJ; monitoring continuously with totalizing, indicating and recording equipment - standard requirement for a municipal permit with this design flow. Tertiary upgrade design flow of 2.5 MGD.

pH: Minimum of 6.0 s.u., maximum of 9.0 s.u. - BPJ to protect water quality in the receiving stream; grab sample.

BOD5 & TSS: Monthly average limit of 10 mg/l (38 kg/d loading cap based upon 0.99 MGD tier) and a weekly average limit of 15 mg/l (56 kg/d loading cap based upon 0.99 MGD tier)) are based upon treatment plant upgrade capable of meeting tertiary limitations, best professional judgment and loading caps to protect water quality and prevent degradation as a result of increasing pollutant loadings to the stream, 24 Hr. composite.

TRC - WQS-0.015 mg/l monthly average - 0.018 mg/l weekly average: chlorine limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual. (See Attachment 6-2); grab sample.

D.O. - WQS-limit 6.0 mg/l min. to protect Class III waters; monitoring 1/D - BPJ to protect water quality in the receiving waters; grab sample

Zinc, total recoverable - WQS- 67 ug/l monthly and 67 ug/l weekly average; .077 kg/d monthly and weekly average *loading limit cap* calculated based upon current design flow of .303 MGD to insure no water quality degradation (BPJ): this receiving stream segment had been listed as impaired in Category 4B of the 305(b)/303(d) integrated report for non-attainment of zinc. The listing is due solely to water quality-based limits of 67 ug/l for zinc in this permit. The limits have been met which has resulted in attainment of the standards. The zinc limit should remain unchanged with the increase in future flows, as the 67 ug/l is known to be protective of water quality . [Zinc limitations were calculated as a toxic parameter in accordance with OWPS guidance dated September 24, 2000 and VPDES manual. (See pg. 23 & 33)]; 24 Hr. composite sample

TKN -N Monthly average limit of 3.0 mg/l (11 kg/d loading cap based upon 0.99 MGD tier) and a weekly average limit of 4.5 mg/l (17 kg/d loading cap based upon 0.99 MGD tier) were based upon best professional judgment to protect water quality and prevent degradation as a result of increasing pollutant loadings to the stream, 24 Hr. composite .

Total Nitrogen: limit of 10 mg/l (38 kg/d loading cap based upon 0.99 MGD tier) and a weekly average limit of 15 mg/l (56 kg/d loading cap based upon 0.99 MGD tier)) to insure no water quality degradation caused by increased loadings to stream (BPJ); 1/Week frequency is the standard monitoring frequency in accordance with VPDES manual for this flow and best professional judgment; a nutrient enriched waters classification is approx. 10 miles downstream and pending stream standards for nutrients are forthcoming, hence a conservative approach utilizing the Tech Reg. 9 VAC 25-40 was used as a basis for this limit; 24 Hr. composite

Phosphorus : Monthly average limit of 2.0 mg/l (7.5 kg/d loading cap based upon 0.99 MGD tier) to insure no water quality degradation caused by increased loadings to stream (BPJ); 1/Week frequency is the standard monitoring frequency in accordance with VPDES manual for this flow; 24 Hr. composite

ATTACHMENT 6

VPDES PERMIT PROGRAM

Rationale for Effluent Limitations and Monitoring
DESIGN FLOW = 2.5 MGD
Continued

CALCULATIONS

Loading (kg/d)= concentration (mg/l) X flow (MGD) X 3.785

BOD loading (monthly average) = 10 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***38 kg/d (significant figures guidance)***
BOD loading (weekly average) = 15 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***56 kg/d (significant figures guidance)***

TSS loading (monthly average) = 10 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***38 kg/d (significant figures guidance)***
TSS loading (weekly average) = 15 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***56 kg/d (significant figures guidance)***

TKN loading (monthly average) = 3.0 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***11 kg/d (significant figures guidance)***
TKN loading (weekly average) = 4.5 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***= 17 kg/d (significant figures guidance)***

Total Phosphorous loading (monthly average) = 2.0 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***7.5 kg/d***
Total Nitrogen loading (monthly average) = 10 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***38 kg/d***
Total Nitrogen loading (weekly average) 15 (mg/l) X 0.99 (MGD) ***loading limit cap*** X 3.785 = ***56 kg/d***

Total Recoverable zinc loadings based on .303 loading cap

CHAPTER 40.
REGULATION FOR NUTRIENT ENRICHED WATERS AND DISCHARGERS WITHIN THE CHESAPEAKE BAY WATERSHED.

9 VAC 25-40-10. Purpose.

This regulation provides for the control of discharges of nutrients from point sources affecting state waters that are designated "nutrient enriched waters" in 9 VAC 25-260-350 or are located within the Chesapeake Bay watershed, which consists of the following Virginia river basins: Potomac River Basin (9 VAC 25-260-390 and 9 VAC 25-260-400), James River Basin (9 VAC 25-260-410, 9 VAC 25-260-415, 9 VAC 25-260-420, and 9 VAC 25-260-430), Rappahannock River Basin (9 VAC 25-260-440), Chesapeake Bay and small coastal basins (9 VAC 25-260-520, Sections 2 through 3g), and the York River Basin (9 VAC 25-260-530).

The provisions of this regulation and the Water Quality Management Planning Regulation (9 VAC 25-720) constitute the nutrient reduction requirements for point source discharges in the Chesapeake Bay Watershed to protect the Chesapeake Bay and its tidal rivers.

9 VAC 25-40-20. (Repealed.)

9 VAC 25-40-25. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Equivalent load" means 2,300 pounds per year of total nitrogen and 300 pounds per year of total phosphorus at a flow volume of 40,000 gallons per day; 5,700 pounds per year of total nitrogen and 760 pounds per year of total phosphorus at a flow volume of 100,000 gallons per day; and 28,500 pounds per year of total nitrogen and 3,800 pounds per year of total phosphorus at a flow volume of 500,000 gallons per day.

"Expansion" or "expands" means initiating construction at an existing facility after July 1, 2005, to increase treatment capacity, except that the term does not apply in those cases where a Certificate to Construct was issued on or before July 1, 2005.

"Point source dischargers" or "dischargers" do not include permitted discharges of noncontact cooling water or storm water.

9 VAC 25-40-30. Strategy for "nutrient enriched waters", outside of Chesapeake Bay Watershed.

A. All dischargers authorized by VPDES permits to discharge 1.0 MGD or more to "nutrient enriched waters" shall meet a monthly average total phosphorus effluent limitation of 2.0 mg/l.

B. New dischargers as defined in 9 VAC 25-31 with a permit issued after July 1, 1988, and are authorized by VPDES permits to discharge 0.050 MGD or more to "nutrient enriched waters" shall be required to meet a monthly average total phosphorus effluent limitation of 2.0 mg/l.

C. This regulation shall not be construed to relax any effluent limitation concerning a nutrient that is imposed under any other requirement of state or federal law.

D. Any discharger to "nutrient enriched waters" that is located within the Chesapeake Bay Watershed is not subject to the requirements of this section.

9 VAC 25-40-40. Permit amendments.

Whenever the board determines that a permittee has the potential for discharging monthly average total phosphorus concentrations greater than or equal to 2.0 mg/l or monthly average total nitrogen concentrations greater than or equal to 10 mg/l to "nutrient enriched waters," the board may reopen the VPDES permit to impose monitoring requirements for nutrients in the discharge.

9 VAC 25-40-50. Possibility of further limitations.

The board anticipates that, following implementation of the foregoing requirements and evaluation of effects of this regulation and of the results of the nonpoint source control programs, further limitations on discharges of phosphorus or of other nutrients may be necessary to control undesirable growths of aquatic plants.

31 36 38

Analysis of the Courtland effluent data for zinc
Averaging period for standard = 4 days

The statistics for zinc are:

Number of values	=	9
Quantification level	=	20
Number < quantification	=	0
Expected value	=	41.44444
Variance	=	618.3511
C.V.	=	.6
97th percentile	=	100.8516
Statistics used	=	Reasonable potential assumptions - Type 2 data

The WLAs for zinc are:

Acute WLA	=	67
Chronic WLA	=	600
Human Health WLA	=	----

antideg allocation

Limits are based on acute toxicity and 1 samples/month, 1 samples/week

Maximum daily limit	=	67
Average weekly limit	=	67
Average monthly limit	=	67

Note: The maximum daily limit applies to industrial dischargers
The average weekly limit applies to POTWs
The average monthly limit applies to both.

The Data are
33
44
35
23
46
56
58
47
31

latest calculations (99%) do not change limit

RUN IN 2000 same # in 2005

3/29/2005 2:35:25 PM

Facility = Courtland & Environs WWTP
Chemical = chlorine
Chronic averaging period = 4
WLAa = 30
WLAc = 190
Q.L. = 100
# samples/mo. = 30
# samples/wk. = 8

Summary of Statistics:

observations = 3
Expected Value = 3166.66
Variance = 3610000
C.V. = 0.6
97th percentile daily values = 7705.82
97th percentile 4 day average = 5268.66
97th percentile 30 day average= 3819.16
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 30
Average Weekly limit = 17.8951525770667 .018
Average Monthly LImit = 14.8686349160304 .015

The data are:

3000
4000
2500

Chlorine
2005
no change

38

Analysis of the courtland effluent data for chlorine
Averaging period for standard = 4 days

The statistics for chlorine are:

Number of values	=	4
Quantification level	=	100
Number < quantification	=	0
Expected value	=	3125
Variance	=	3515627
C.V.	=	.6
97th percentile	=	7604.432
Statistics used	=	Reasonable potential assumptions - Type 2 data

The WLAs for chlorine are:

Acute WLA	=	30
Chronic WLA	=	170
Human Health WLA	=	----

Limits are based on acute toxicity and 30 samples/month, 8 samples/week

Maximum daily limit	=	30
Average weekly limit	=	17.89515
Average monthly limit	=	14.86863

Note: The maximum daily limit applies to industrial dischargers.
The average weekly limit applies to POTWs
The average monthly limit applies to both.

The Data are
3000
4000
2500

latest calculations do not change limit.

chlorine
Run in '02 2000, 2005

3/29/2005 2:28:43 PM

Facility = Courtland & Environs WWTP
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 57
WLAc = 2.8
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 5.64947626156567
Average Weekly limit = 5.64947626156567
Average Monthly LImit = 5.64947626156567

The data are:

9

2005 ammonia limit needed 5.6 mg/L
Upgrade: TKN limit of 3.0 mg/L will replace requirement

Courtland & Spirans WWTP

35

ANTIDEGRADATION ANALYSES

Effluent flow = .303 MGD
Stream 7Q10 flow = 18.73 MGD Stream 1Q10 flow = 17.44 MGD
Width = 220 ft Slope (ft/ft) = .0002
Bottom scale = 1
Channel has normal irregularities

CHRONIC RESULTS
7Q10 depth = 0.50 ft
7Q10 velocity = 0.27 ft/sec = 4.3 mi / day
Mixing length @ 7Q10 = 179535 ft =
Residence time = 7.814 days
COMPLETE MIX MAY NOT BE USED FOR THE CHRONIC WLA
Percent of 7Q10 to be used for WLAc = 26%

ACUTE RESULTS
1Q10 depth = 0.48 ft
1Q10 velocity = 0.26 ft/sec = 4.2 mi / day
Mixing length @ 1Q10 = 185982 ft =
Residence time = 199.776 hours
COMPLETE MIX CANNOT BE USED FOR THE ACUTE WLA
Percent of 1Q10 to be used for WLAa = 1%

Use print screen for hard copy

C:\> &

2005 calculations reissuance reflecting WQS changes only ammonia was effected this cycle

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Courtland & Environs WWTP Permit No.: VA0061654

Receiving Stream: Nottoway River

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	30 mg/L
0% Temperature (Annual) =	26.75 deg C
0% Temperature (Wet season) =	12 deg C
0% Maximum pH =	7.02 SU
0% Maximum pH =	6.56 SU
ier Designation (1 or 2) =	1
ublic Water Supply (PWS) Y/N? =	n
rout Present Y/N? =	n
arly Life Stages Present Y/N? =	y

Stream Flows

1Q10 (Annual) =	17.44 MGD
7Q10 (Annual) =	18.73 MGD
30Q10 (Annual) =	MGD
1Q10 (Wet season) =	MGD
30Q10 (Wet season) =	MGD
30Q5 =	41.34 MGD
Harmonic Mean =	177.26 MGD
Annual Average =	n/a MGD

Mixing Information

Annual - 1Q10 Mix =	%
- 7Q10 Mix =	26 %
- 30Q10 Mix =	%
Wet Season - 1Q10 Mix =	%
- 30Q10 Mix =	%

Effluent Information

Mean Hardness (as CaCO3) =	80.4 mg/L
90% Temp (Annual) =	26 deg C
90% Temp (Wet season) =	22.7 deg C
90% Maximum pH =	7 SU
10% Maximum pH =	7 SU
Discharge Flow =	0.303 MGD

arameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
g/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
enapthene	0	--	--	na	2.7E+03	--	--	na	3.7E+05	--	--	--	--	--	--	--	--	--	--	na	3.7E+05
rolein	0	--	--	na	7.8E+02	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
rylonitrile[C]	0	--	--	na	6.6E+00	--	--	na	3.9E+03	--	--	--	--	--	--	--	--	--	--	na	3.9E+03
drin [C]	0	3.0E+00	--	na	1.4E-03	4.7E+00	--	na	8.2E-01	--	--	--	--	--	--	--	--	4.7E+00	--	na	8.2E-01
mmonia-N (mg/l) early)	0	3.59E+01	2.82E+00	na	--	5.7E+01	2.8E+00	na	--	--	--	--	--	--	--	--	--	5.7E+01	2.8E+00	na	--
mmonia-N (mg/l) igh Flow)	0	3.61E+01	3.49E+00	na	--	3.6E+01	3.5E+00	na	--	--	--	--	--	--	--	--	--	3.6E+01	3.5E+00	na	--
nthracene	0	--	--	na	1.1E+05	--	--	na	1.5E+07	--	--	--	--	--	--	--	--	--	--	na	1.5E+07
timony	0	--	--	na	4.3E+03	--	--	na	5.9E+05	--	--	--	--	--	--	--	--	--	--	na	5.9E+05
senic	0	3.4E+02	1.5E+02	na	--	5.4E+02	2.6E+03	na	--	--	--	--	--	--	--	--	--	5.4E+02	2.6E+03	na	--
rium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
nzene [C]	0	--	--	na	7.1E+02	--	--	na	4.2E+05	--	--	--	--	--	--	--	--	--	--	na	4.2E+05
nzidine[C]	0	--	--	na	5.4E-03	--	--	na	3.2E+00	--	--	--	--	--	--	--	--	--	--	na	3.2
nzo (a) anthracene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9
nzo (b) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
nzo (k) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
nzo (a) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	2.3E+07	--	--	--	--	--	--	--	--	--	--	na	2.3E+07
rmoform [C]	0	--	--	na	3.6E+03	--	--	na	2.1E+06	--	--	--	--	--	--	--	--	--	--	na	2.1E+06
tylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	7.1E+05	--	--	--	--	--	--	--	--	--	--	na	7.1E+05
dmium	0	1.0E+00	4.4E-01	na	--	1.6E+00	7.5E+00	na	--	--	--	--	--	--	--	--	--	1.6E+00	7.5E+00	na	--
rbon Tetrachloride [C]	0	--	--	na	4.4E+01	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
lordane [C]	0	2.4E+00	4.3E-03	na	2.2E-02	3.8E+00	7.3E-02	na	1.3E+01	--	--	--	--	--	--	--	--	3.8E+00	7.3E-02	na	1.3E+01
oride	0	8.6E+05	2.3E+05	na	--	1.4E+06	3.9E+06	na	--	--	--	--	--	--	--	--	--	1.4E+06	3.9E+06	na	--
	0	1.9E+01	1.1E+01	na	--	3.0E+01	1.9E+02	na	--	--	--	--	--	--	--	--	--	3.0E+01	1.9E+02	na	--
orobenzene	0	--	--	na	2.1E+04	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane [C]	0	--	--	na	3.4E+02	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	na	2.0E+05
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	1.7E+07	--	--	--	--	--	--	--	--	--	--	na	1.7E+07
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	5.9E+05	--	--	--	--	--	--	--	--	--	--	na	5.9E+05
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	5.5E+04	--	--	--	--	--	--	--	--	--	--	na	5.5E+04
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.3E-01	7.0E-01	na	--	--	--	--	--	--	--	--	--	1.3E-01	7.0E-01	na	--
Chromium III	0	2.1E+02	2.8E+01	na	--	3.4E+02	4.7E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	4.7E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	2.5E+01	1.9E+02	na	--	--	--	--	--	--	--	--	--	2.5E+01	1.9E+02	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Copper	0	4.4E+00	3.2E+00	na	--	6.9E+00	5.5E+01	na	--	--	--	--	--	--	--	--	--	6.9E+00	5.5E+01	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	3.5E+01	8.9E+01	na	3.0E+07	--	--	--	--	--	--	--	--	3.5E+01	8.9E+01	na	3.0E+07
DDD [C]	0	--	--	na	8.4E-03	--	--	na	4.9E+00	--	--	--	--	--	--	--	--	--	--	na	4.9E+00
DDE [C]	0	--	--	na	5.9E-03	--	--	na	3.5E+00	--	--	--	--	--	--	--	--	--	--	na	3.5E+00
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	1.7E+00	1.7E-02	na	3.5E+00	--	--	--	--	--	--	--	--	1.7E+00	1.7E-02	na	3.5E+00
Demeton	0	--	1.0E-01	na	--	--	1.7E+00	na	--	--	--	--	--	--	--	--	--	--	1.7E+00	na	
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.6E+06	--	--	--	--	--	--	--	--	--	--	na	1.6E+06
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	9.4E+06	--	--	--	--	--	--	--	--	--	--	na	9.4E+06
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	2.3E+06	--	--	--	--	--	--	--	--	--	--	na	2.3E+06
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	3.6E+05	--	--	--	--	--	--	--	--	--	--	na	3.6E+05
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	3.6E+05	--	--	--	--	--	--	--	--	--	--	na	3.6E+05
3,3-Dichlorobenzidine [C]	0	--	--	na	7.7E-01	--	--	na	4.5E+02	--	--	--	--	--	--	--	--	--	--	na	4.5E+02
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	2.7E+05	--	--	--	--	--	--	--	--	--	--	na	2.7E+05
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	5.8E+05	--	--	--	--	--	--	--	--	--	--	na	5.8E+05
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	2.3E+06	--	--	--	--	--	--	--	--	--	--	na	2.3E+06
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.9E+07	--	--	--	--	--	--	--	--	--	--	na	1.9E+07
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane [C]	0	--	--	na	3.9E+02	--	--	na	2.3E+05	--	--	--	--	--	--	--	--	--	--	na	2.3E+05
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	2.3E+05	--	--	--	--	--	--	--	--	--	--	na	2.3E+05
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	3.8E-01	9.6E-01	na	8.2E-01	--	--	--	--	--	--	--	--	3.8E-01	9.6E-01	na	8.2E-01
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.6E+07	--	--	--	--	--	--	--	--	--	--	na	1.6E+07
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	3.5E+04	--	--	--	--	--	--	--	--	--	--	na	3.5E+04
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	3.2E+05	--	--	--	--	--	--	--	--	--	--	na	3.2E+05
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	4.0E+08	--	--	--	--	--	--	--	--	--	--	na	4.0E+08
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.6E+06	--	--	--	--	--	--	--	--	--	--	na	1.6E+06
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.9E+06	--	--	--	--	--	--	--	--	--	--	na	1.9E+06
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	5.3E+04	--	--	--	--	--	--	--	--	--	--	na	5.3E+04
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	--	--	--	--	--	na	na
1,2-Diphenylhydrazine [C]	0	--	--	na	5.4E+00	--	--	na	3.2E+03	--	--	--	--	--	--	--	--	--	--	na	3.2E+03
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	3.5E-01	9.6E-01	na	3.3E+04	--	--	--	--	--	--	--	--	3.5E-01	9.6E-01	na	3.3E+04
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	3.5E-01	9.6E-01	na	3.3E+04	--	--	--	--	--	--	--	--	3.5E-01	9.6E-01	na	3.3E+04
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	3.3E+04	--	--	--	--	--	--	--	--	--	--	na	3.3E+04
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	1.4E-01	6.1E-01	na	1.1E+02	--	--	--	--	--	--	--	--	1.4E-01	6.1E-01	na	1.1E+02
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	na	1.1E+02

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	4.0E+06	--	--	--	--	--	--	--	--	--	--	na	4.0E+06
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	5.1E+04	--	--	--	--	--	--	--	--	--	--	na	5.1E+04
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.9E+06	--	--	--	--	--	--	--	--	--	--	na	1.9E+06
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.7E-01	na	--	--	--	--	--	--	--	--	--	--	1.7E-01	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	8.2E-01	6.5E-02	na	1.2E+00	--	--	--	--	--	--	--	--	8.2E-01	6.5E-02	na	1.2E+00
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	na	1.1E-03	8.2E-01	6.5E-02	na	6.4E-01	--	--	--	--	--	--	--	--	8.2E-01	6.5E-02	na	6.4E-01
Hexachlorobenzene [C]	0	--	--	na	7.7E-03	--	--	na	4.5E+00	--	--	--	--	--	--	--	--	--	--	na	4.5E+00
Hexachlorobutadiene [C]	0	--	--	na	5.0E+02	--	--	na	2.9E+05	--	--	--	--	--	--	--	--	--	--	na	2.9E+05
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	na	1.3E-01	--	--	na	7.6E+01	--	--	--	--	--	--	--	--	--	--	na	7.6E+01
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	na	4.6E-01	--	--	na	2.7E+02	--	--	--	--	--	--	--	--	--	--	na	2.7E+02
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	na	na	6.3E-01	1.5E+00	--	na	3.7E+02	--	--	--	--	--	--	--	--	1.5E+00	--	na	3.7E+02
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	2.3E+06	--	--	--	--	--	--	--	--	--	--	na	2.3E+06
Hexachloroethane [C]	0	--	--	na	8.9E+01	--	--	na	5.2E+04	--	--	--	--	--	--	--	--	--	--	na	5.2E+04
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	3.4E+01	na	--	--	--	--	--	--	--	--	--	--	3.4E+01	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone [C]	0	--	--	na	2.6E+04	--	--	na	1.5E+07	--	--	--	--	--	--	--	--	--	--	na	1.5E+07
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	2.6E+01	2.9E+00	na	--	4.1E+01	5.0E+01	na	--	--	--	--	--	--	--	--	--	4.1E+01	5.0E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.7E+00	na	--	--	--	--	--	--	--	--	--	--	1.7E+00	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	2.2E+00	1.3E+01	na	7.0E+00	--	--	--	--	--	--	--	--	2.2E+00	1.3E+01	na	7.0E+00
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	5.5E+05	--	--	--	--	--	--	--	--	--	--	na	5.5E+05
Methoxychlor	0	--	3.0E-02	na	--	--	5.1E-01	na	--	--	--	--	--	--	--	--	--	--	5.1E-01	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06
Nickel	0	6.6E+01	7.3E+00	na	4.6E+03	1.0E+02	1.3E+02	na	6.3E+05	--	--	--	--	--	--	--	--	1.0E+02	1.3E+02	na	6.3E+05
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	2.6E+05	--	--	--	--	--	--	--	--	--	--	na	2.6E+05
N-Nitrosodimethylamine [C]	0	--	--	na	8.1E+01	--	--	na	4.7E+04	--	--	--	--	--	--	--	--	--	--	na	4.7E+04
N-Nitrosodiphenylamine [C]	0	--	--	na	1.6E+02	--	--	na	9.4E+04	--	--	--	--	--	--	--	--	--	--	na	9.4E+04
N-Nitrosodi-n-propylamine [C]	0	--	--	na	1.4E+01	--	--	na	8.2E+03	--	--	--	--	--	--	--	--	--	--	na	8.2E+03
Parathion	0	6.5E-02	1.3E-02	na	--	1.0E-01	2.2E-01	na	--	--	--	--	--	--	--	--	--	1.0E-01	2.2E-01	na	--
PCB-1016	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB-1221	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB-1232	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB-1242	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB-1248	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB-1254	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB-1260	0	--	1.4E-02	na	--	--	2.4E-01	na	--	--	--	--	--	--	--	--	--	--	2.4E-01	na	--
PCB Total [C]	0	--	--	na	1.7E-03	--	--	na	1.0E+00	--	--	--	--	--	--	--	--	--	--	na	1.0E+00

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	7.0E+00	4.4E+00	na	8.2E+01	1.1E+01	7.5E+01	na	4.8E+04	--	--	--	--	--	--	--	--	1.1E+01	7.5E+01	na	4.8E+04
Phenol	0	--	--	na	4.6E+06	--	--	na	6.3E+08	--	--	--	--	--	--	--	--	--	--	na	6.3E+08
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.5E+06	--	--	--	--	--	--	--	--	--	--	na	1.5E+06
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Beta and Photon Activity mrem/yr)	0	--	--	na	4.0E+00	--	--	na	5.5E+02	--	--	--	--	--	--	--	--	--	--	na	5.5E+02
Strontium-90	0	--	--	na	8.0E+00	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Tritium	0	--	--	na	2.0E+04	--	--	na	2.7E+06	--	--	--	--	--	--	--	--	--	--	na	2.7E+06
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	3.2E+01	8.5E+01	na	1.5E+06	--	--	--	--	--	--	--	--	3.2E+01	8.5E+01	na	1.5E+06
Silver	0	4.4E-01	--	na	--	7.0E-01	--	na	--	--	--	--	--	--	--	--	--	7.0E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane [C]	0	--	--	na	1.1E+02	--	--	na	6.4E+04	--	--	--	--	--	--	--	--	--	--	na	6.4E+04
Tetrachloroethylene [C]	0	--	--	na	8.9E+01	--	--	na	5.2E+04	--	--	--	--	--	--	--	--	--	--	na	5.2E+04
Thallium	0	--	--	na	6.3E+00	--	--	na	8.7E+02	--	--	--	--	--	--	--	--	--	--	na	8.
Toluene	0	--	--	na	2.0E+05	--	--	na	2.7E+07	--	--	--	--	--	--	--	--	--	--	na	2.7E+0
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene [C]	0	7.3E-01	2.0E-04	na	7.5E-03	1.2E+00	3.4E-03	na	4.4E+00	--	--	--	--	--	--	--	--	1.2E+00	3.4E-03	na	4.4E+00
Tributyltin	0	4.6E-01	6.3E-02	na	--	7.2E-01	1.1E+00	na	--	--	--	--	--	--	--	--	--	7.2E-01	1.1E+00	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	1.3E+05	--	--	--	--	--	--	--	--	--	--	na	1.3E+05
1,1,2-Trichloroethane [C]	0	--	--	na	4.2E+02	--	--	na	2.5E+05	--	--	--	--	--	--	--	--	--	--	na	2.5E+05
Trichloroethylene [C]	0	--	--	na	8.1E+02	--	--	na	4.7E+05	--	--	--	--	--	--	--	--	--	--	na	4.7E+05
2,4,6-Trichlorophenol [C]	0	--	--	na	6.5E+01	--	--	na	3.8E+04	--	--	--	--	--	--	--	--	--	--	na	3.8E+04
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride [C]	0	--	--	na	6.1E+01	--	--	na	3.6E+04	--	--	--	--	--	--	--	--	--	--	na	3.6E+04
Zinc	0	4.3E+01	4.3E+01	na	6.9E+04	6.7E+01	7.3E+02	na	9.5E+06	--	--	--	--	--	--	--	--	6.7E+01	7.3E+02	na	9.5E+06

Notes:

All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise

Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals

Metals measured as Dissolved, unless specified otherwise

"C" indicates a carcinogenic parameter

Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.

Antidegradation WLAs are based upon a complete mix.

Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic

= (0.1(WQC - background conc.) + background conc.) for human health

WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	5.9E+05
Arsenic	2.1E+02
Barium	na
Cadmium	6.4E-01
Chromium III	1.3E+02
Chromium VI	1.0E+01
Copper	2.7E+00
Iron	na
Lead	1.6E+01
Manganese	na
Mercury	8.8E-01
Nickel	4.2E+01
Selenium	1.3E+01
Silver	2.8E-01
Zinc	2.7E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

39
40 385

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Water Quality Assessments
629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination
Courtland WWTP – #VA0061859

TO: Bob Smithson, TRO

FROM: Paul E. Herman, P.E., WQAP

DATE: March 13, 2000

COPIES: Ron Gregory, Charles Martin, File

The Courtland WWTP discharges to the Nottoway River near Courtland, VA. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The USGS has operated a continuous record gage on the Nottoway River near Sebrell, VA (#02047000) since 1942. The gage is located approximately 10 miles upstream from the discharge point at the Route 653 bridge in Southampton County. The flow frequencies for the gage and the discharge point are presented below. The values at the discharge point were determined by drainage area proportions and have been adjusted to include the withdrawal by the City of Norfolk. Adjustments have not been made for other withdrawals, discharges, or springs that may lie between the gage and the discharge point.

Investigation into the City of Norfolk's ability to withdraw water from the Nottoway River during low flows showed the City discontinues their withdrawal when the Nottoway's flows drop below 155 cfs. Therefore, Norfolk's withdrawal volumes should be subtracted from those flow frequencies that exceed 155 cfs. Low flow frequencies for the Sebrell gage that fall below 155 cfs were projected to the discharge point and not reduced. The value of 155 cfs was obtained from the Planning Bulletin #335 published by the VWCB in 1985 titled "Safe Yield of Municipal Surface Water Supply Systems in Virginia". Listed below are the flow frequencies for the gage and the discharge point. The values at the gage were determined by drainage area proportions and have been adjusted as described above to account for withdrawals by the City of Norfolk.

Nottoway River near Sebrell, VA (#02047000):

Drainage Area = 1,421 mi^2

1Q10 = 24 cfs	High Flow 1Q10 = 247 cfs
7Q10 = 26 cfs	High Flow 7Q10 = 281 cfs
30Q5 = 57 cfs	HM = 274 cfs

The high flow months are January through April. The Norfolk withdrawal will be subtracted from the high flow 1Q10, high flow 7Q10, and harmonic mean. Norfolk's maximum withdrawal during the high flow period occurred during January 1991 and equaled 20.8 MGD (32.2 cfs). The maximum withdrawal during the low flow period will be subtracted from the harmonic mean. The maximum low flow period withdrawal occurred during December 1991 and equaled 21.7 MGD (33.6 cfs).

Nottoway River at Courtland WWTP discharge point:

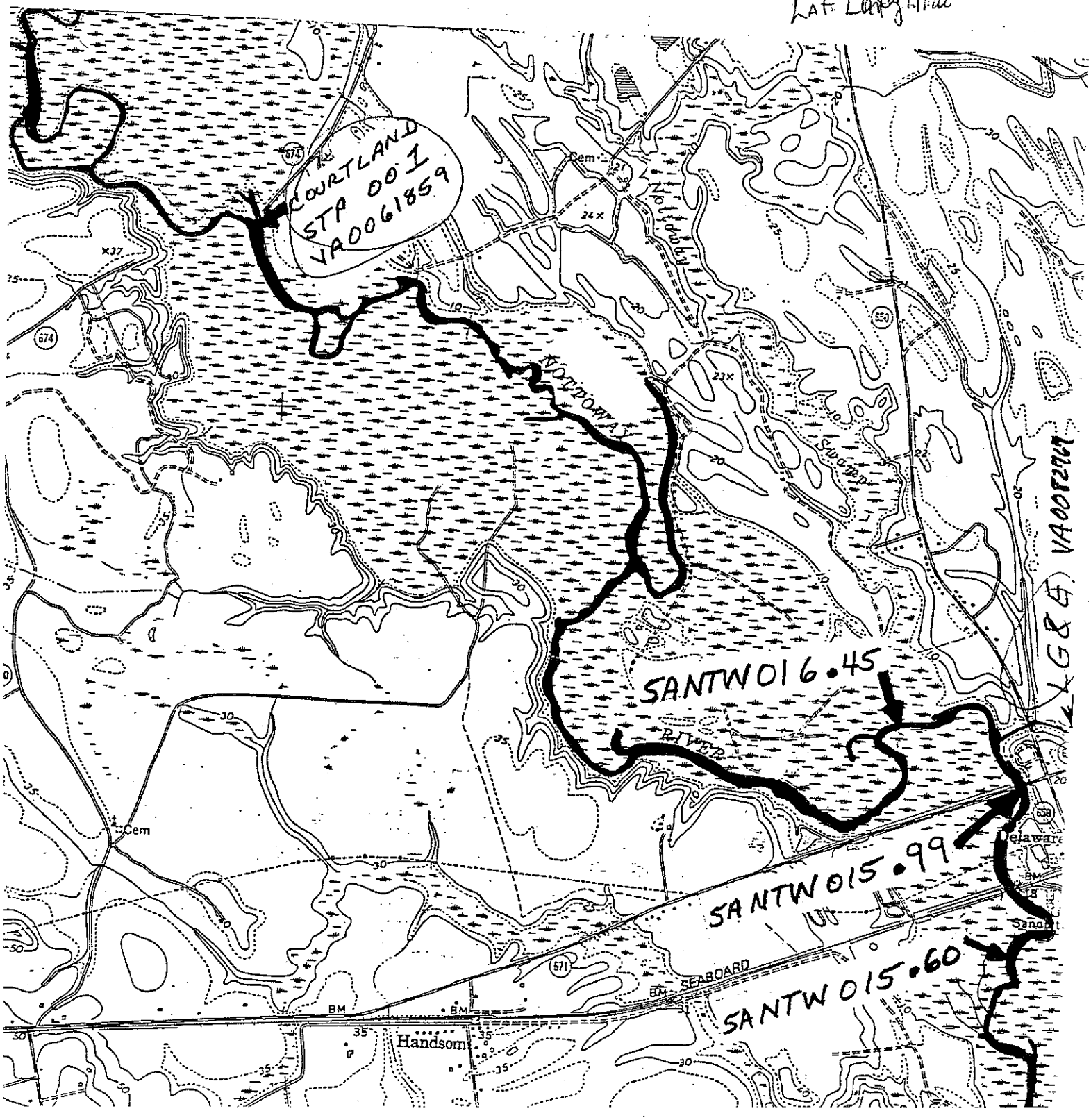
Drainage Area = 1,596.27 mi^2

1Q10 = 27 cfs	17.44 mgd	High Flow 1Q10 = 277 cfs – 32.2 cfs = 244.8 cfs
7Q10 = 29 cfs	18.73 mgd	High Flow 7Q10 = 316 cfs – 32.2 cfs = 283.8 cfs
30Q5 = 64 cfs	41.34 mgd	HM = 308 cfs – 33.6 cfs = 274.4 cfs 177.26 mgd

41 36

WRA Attn Paul Herman
Rm 905 / From B. Smithson
TRO
(518-2106)

Lat Longitude



APPROX. HALF MILE UPSTREAM FROM RT. 671 36 39 16 77 0 34 4 PERMIT DATA FOR ANHTHU NGUYEN

51175 VIRGINIA SOUTHAMPTON

03-SOUTHEAST 30500
5-CHOWAN
21VASWCB + DISMAL SWAMP
970405

0 FEET DEPTH 3010201 /TYPA/AMBNT/STREAM

DATE FROM TO		10 WATER TEMP CENT	96 SALINITY AT 25C MG/ML	400 PH SU	900 TOT HARD CACO3 MG/L	1000 ARSENIC AS,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1040 COPPER CU,DISS UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L
94/01/01											
STATION											
	PCTL(090.0)	26.75	0	7.02		0.34	0.1	0.65	0.1	0.4	0.1
	PCTL(097.0)	26.75	0	7.02		0.34	0.1	0.65	0.1	0.4	0.1
	NUMBER	2	2	2		2	2	2	2	2	2
	MAXIMUM	26.75	0	7.02		0.34	0.1	0.65	0.1	0.4	0.1
	MINIMUM	18.75	0	6.96		0.21	0.1	0.44	0.1	0.28	0.1
	MEAN	22.75	0	6.99		0.275	0.1	0.545	0.1	0.34	0.1
	STAND DEV	5.65685	0	0.0424327		0.091924	0	0.148495	0	0.084853	0
	COEF VAR	0.248653		0.0060705		0.334268	0	0.272468	0	0.249567	0
99/12/10											

5ANTW016.45

APPROX. HALF MILE UPSTREAM FROM RT. 671 36 39 16 77 0 34 4 PERMIT DATA FOR ANHTHU NGUYEN

51175 VIRGINIA SOUTHAMPTON

03-SOUTHEAST 30500
5-CHOWAN
21VASWCB + DISMAL SWAMP
970405

0 FEET DEPTH 3010201 /TYPA/AMBNT/STREAM

DATE FROM TO		1090 ZINC ZN,DISS UG/L	1002 ARSENIC AS,TOT UG/L	1027 CADMIUM CD,TOT UG/L	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L	1051 LEAD PB,TOT UG/L	1055 MANGNESE MN UG/L	1067 NICKEL NI,TOTAL UG/L	1077 SILVER AG,TOT UG/L	1092 ZINC ZN,TOT UG/L
)4/01/01											
STATION											
	PCTL(090.0)	1	5	5	10	630	5	173	10		14.9
	PCTL(097.0)	1	5	5	10	630	5	173	10		14.9
	NUMBER	2	2	2	2	2	2	2	2		2
	MAXIMUM	1	5	5	10	630	5	173	10		14.9
	MINIMUM	1	5	5	10	502	5	135	10		10
	MEAN	1	5	5	10	566	5	154	10		12.45
	STAND DEV	0	0	0	0	90.5097	0	26.8701	0		3.46484
	COEF VAR	0	0	0	0	0.159911	0	0.174481	0		0.278301
9/12/10											

APPROX. HALF MILE UPSTREAM FROM RT. 671 36 39 16 77 0 34 4 PERMIT DATA FOR ANHTHU NGUYEN

51175 VIRGINIA SOUTHAMPTON 30500

03-SOUTHEAST
5-CHOWAN
21VASWCB

+ DISMAL SWAMP
970405

3010201 /TYPA/AMBNT/STREAM

10 * 00096

	0 DATE FROM TO	TIME OF DAY	MEDIUM	SMK OR DEPTH (FT)	WATER TEMP CENT	SALINITY AT 25C MG/ML	400 PH SU	900 TOT HARD CACO3 MG/L	1000 ARSENIC AS,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1040 COPPER CU,DISS UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L
98/07/15		1035	WATER	0.983999	26.8	0	6.96		0.3	.1U	0.7	0.1	0.4	.1U
98/10/13		1200	WATER	0.983999	18.8	0	7.02		0.2	.1U	0.4	.1U	0.3	.1U
									0.4	.1U	0.8	0.4	0.7	.1U

	0 DATE FROM TO	TIME OF DAY	MEDIUM	SMK OR DEPTH (FT)	1090 ZINC ZN,DISS UG/L	1002 ARSENIC AS,TOT UG/L	1027 CADMIUM CD,TOT UG/L	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L	1051 LEAD PB,TOT UG/L	1055 ANGNESE MN UG/L	1067 NICKEL NI,TOTAL UG/L	1077 SILVER AG,TOT UG/L	1092 ZINC ZN,TOT UG/L
98/07/15		1035	WATER	0.983999	1U	5U	5U	10U	630	5U	173	10U		10U
98/10/13		1200	WATER	0.983999	1U	5U	5U	10U	502	5U	135	10U		15
					3						117			

DISSOLVED METALS
NOTTOWAY RIVER
(Not in STORET)

5ANTW016.45

Date	D Temp.	pH	Tl (ug/l)	Sb (ug/l)	As (ug/l)	Cd (ug/l)	Cu (ug/l)	Fe (ug/l)	Pb (ug/l)	Mn (ug/l)	Hg (ug/l)	Zn (ug/l)	Ni (ug/l)	Se (ug/l)	Ag (ug/l)	Al (ug/l)	Cr (ug/l)
4/28/99	17.13	6.56	.2<	.1<	0.4	.1<	0.8	983	0.4	117	.2<	3	0.7	.5<	.1<	59.6	0.3

5ANTW015.60

Date	O Temp.	pH															
4/28/99	17	6.56	.2<	.1<	0.5	.1<	0.8	984	0.4	128	.2<	1<	0.7	.5<	.1<	59.7	0.4

ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE
Attachment 7

B. Additional Total Residual Chlorine (TRC)/E. Coli Limitations and Monitoring Requirements

Rationale: Required by Water Quality Standards, 9VAC 25-260-170, Fecal coliform bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

Required by Water Quality Standards, 9 VAC 25-260-170.A.2.: new bacterial standards. These standards became effective as of January 15, 2003, as did the revised disinfection policy of 9 VAC 25-260-170.B. The disinfection policy of 9 VAC 25-260-170.B. requires that all effluents attain the applicable bacteria concentration stated in 9 VAC 25-260-170.A.2. prior to discharge.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Permit Reopeners

a. Sludge Reopener

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-220 C., and 40 CFR 122.44 (c)(4), which note that all permits for domestic sewage treatment plants (including sludge-only facilities) include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Clean Water Act.

b. Total Maximum Daily Load (TMDL) Reopener

Rationale: For specified waters, section 303(d) of the Clean Water Act requires the development of total maximum daily loads necessary to achieve the applicable water quality standards. The TMDL must take into account seasonal variations and a margin of safety. In addition, section 62.1-44.19:7 of the State Water Control Law requires the development and implementation of plans to address impaired waters, including TMDLs. This condition allows for the permit to be either modified or, alternatively, revoked and reissued to incorporate the requirements of a TMDL once it is developed. In addition, the reopener recognizes that, in according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

2. Licensed Operator Requirement

Rationale: The Permit Regulation, 9 VAC 25-31-200 D and Code of Virginia 54.1-2300 et. seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators.

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE
Attachment 7 continued

3. Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 12 VAC 5-581-20 and 120 for all municipal facilities.

4. CTC, CTO and O & M Manual Requirements

Rationale: Required by the State Water Control Law, Section 62.1-44.19; the Sewage Collection and Treatment Regulations (12 VAC 5-581 et seq); Section 401 of the Clean Water Act; 40 CFR 122.41(e); and the VPDES Permit Regulation (9 VAC-25-31-190E).

5. 95% Design Capacity Notification

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.2. for all POTW and PVOTW permits. Best professional judgement is used to apply this condition to other (private) municipal treatment facilities.

6. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4.

7. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters with quantification levels and other limited parameters to ensure consistent, accurate reporting on submitted reports.

8. Materials Handling and Storage

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-50 A., prohibits the discharge of any wastes into State waters unless authorized by permit. The State Water Control Law, Sec. 62.1-44.18:2, authorizes the Board to prohibit any waste discharge which would threaten public health or safety, interfere with or be incompatible with treatment works or water use. Section 301 of the Clean Water Act prohibits the discharge of any pollutant unless it complies with specific sections of the Act.

9. Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

10. Sludge Management Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-420, and 40 CFR 503.1 specify the purpose and applicability for sludge management plans. The VPDES

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE
Attachment 7 continued

Permit Regulation, 9 VAC 25-31-100 J.4., also sets forth certain detailed information which must be included in a sludge management plan. The VPDES sewage sludge permit application form and its attachments constitute the sludge management plan and will be considered for approval with the VPDES permit. In addition, the Biosolids Use Regulation, 12 VAC 5-585-330 and 340, specifies the general purpose and control requirements for an O&M manual in order to facilitate proper O&M of the facilities to meet the requirements of the regulation.

D. Pretreatment (Significant Discharger Survey)

Rationale: The permit regulation, 9 VAC 25-31-10 et seq., Part VII, establishes the legal requirements for State, local government and industry to implement National Pretreatment Standards. The Pretreatment Standards are implemented to prevent POTW plant pass through, interference, violation of water quality standards or contamination of sewage sludge. The regulation requires POTWs with a total design flow greater than 5 MGD with significant or categorical industrial input to establish a Pretreatment Program. The regulation also may apply to POTWs with design flows less than 5 MGD if circumstances warrant control of industrial discharges.

E. TOXICS MANAGENENT PROGRAM (TMP)

Rationale: To determine the need for pollutant specific and/or whole effluent toxicity limits as may be required by the VPDES Permit Regulation, 9 VAC 25-31-220 D. and 40 CFR 122.44 (d). See Attachment 9 of this fact sheet for additional justification.

ATTACHMENT 8

RECEIVING WATERS INFO
TIER DETERMINATION/305(b)/303 (d) LISTING

50

MEMORANDUM

Department of Environmental Quality
Tidewater Regional Office

5636 Southern Boulevard — Virginia Beach, VA 23462

SUBJECT: VPDES Application Requests
TO: Stephen Cioccia, TRO
~~FROM:~~ RESmithson, TRO
DATE: March 5, 2010
COPIES: TRO File - facility # 171, PPP

From
To

An application has been received for the following facility:

VPDES #: VA0061859 Facility Name: Courtland & Environs WWTP

Topo Map Name: Courtland 6A

Receiving Stream: Nottoway River
[Must be provided for each outfall included in this request or request will be returned]

Attached is a Topographic Map showing facility property boundaries and outfall location(s) for those included in this request. **[MUST be provided or request will be returned]**

Attached is a stream data Request Form **(if data is requested).**

We request the following information from you:

1. __X__ Tier Determination. Tier: 1 (discharge to impaired receiving stream) Outfall 001
Please include a basis for the tier determination. See attachment 1

2. Not requested Stream Data Requested for outfall(s) _____
["STREAM DATA RETRIEVAL REQUEST FORM" MUST be completed & included]

3. __X__ Is this facility mentioned in a Management Plan?
__✓__ No _____ Yes _____ No, but will be included when the Plan is updated.

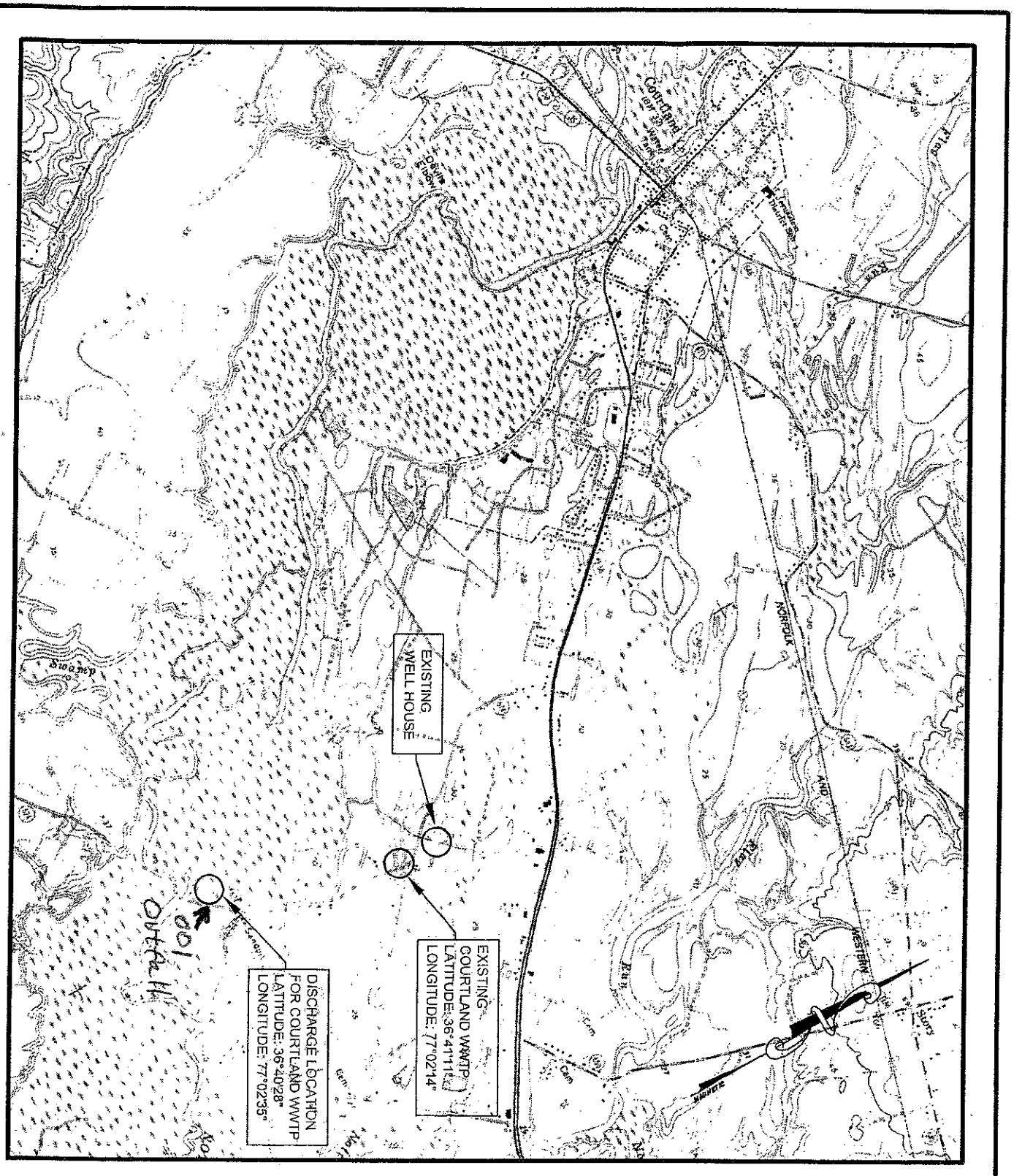
4. __X__ Are limits contained in a Management Plan?
__✓__ No _____ Yes **(If Yes, Please include the basis for the limits.)**

5. __X__ Indicate outfall(s) which discharge directly to an impaired (Category 5) stream segment? 001

6. __X__ Are outfall(s) WLAs contained in an approved TMDL?
__✓__ No _____ Yes **(If Yes, Please include the WLAs)**

Return Date Requested: 3/19/10

Date Returned: 3/17/10



TIMMONS GROUP

COURTLAND & ENVIRONS WWTP SOUTHAMPTON COUNTY - VIRGINIA TOPOGRAPHIC MAP	SCALE 1:24,000	DATE 22 DEC 09

List of Impaired (Category 5) Waters in 2008 IR

Assessment Unit ID	Waterbody Name	City / County*	Assessment Unit Description
VAT-K28R_NTW03A00	**Nottoway River - Lower**	SOUTHAMPTON CO	Lower portion of Nottoway River, beginning near Courtland (Norfolk and Western RR crossing, above Rt 58) downstream to end of watershed K28 (NW of Delaware).

VA Overall AU 5A 9.14 MILES

Beneficial Use	Impairment	Cause Category	First Listed on 303(d)	TMDL Schedule	Impairment Specific Comments and/or Impairment Specific VA Category
Fish Consumption	Mercury In Fish Tissue	Category 5A 2008 K19R-04-	2008	2020	Category 5A 2008 K19R-04-HG Fish Consumption Use is impaired based on the Fish Consumption Advisory issued by the VDH based on mercury concentrations in fish tissue exceeding established action levels issued ton 8/31/2007. VDH issued this advisory recommending limited consumption of several species of fish in the Nottoway River (Largemouth Bass, Smallmouth Bass, Bowfin, Redhorse Sucker species, Longnose Gar, Channel Catfish, Chain Pickerel, and Sunfish species) with no more than 2 meals per month.

Sources: Source Unknown

Attachment 1-1

ATTACHMENT 9

TABLE III (a) & TABLE III (b) - CHANGE SHEETS

TABLE III(a)
VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001	Design flow tiers	n/a	1st design flow tier upgrade changed from 1.25 to 0.99 MGD	Requested by permittee due to decrease in need	03/18/10
001	BOD_5 TSS TKN Tot Phosphorus Tot. Nitrogen	Adjusted frequency based on tier change from 1.25 to 0.99 MGD	Adjusted loadings based on tier change from 1.25 to 0.99 MGD	monitoring freq. and loadings calculations in accordance with VPDES permit manual	03/18/10
001	e. coli	From 1/M to 1/Week	No change	Correction: in accordance with VPDES Permit Manual for alternative disinfection	03/18/10
001	zinc	No change	Loading limit calculation corrected from 77 kg/d to .077 kg/d; these loading limits included in tier 1 to be consistent with tiers 2 and 3	Administrative correction in calculation; Best Professional Judgment	03/18/10

OTHER ITEMS CHANGED:	CHANGE MADE:	DATE & INITIAL
Upon upgrade class operator requirement changes from Class III to Class II (downgraded from previous Class I stipulation)	Permittee request is acceptable and in accordance with OWPP Guid. Memo No. 07-2012: Assigning Operator License Classes for biological & advanced WWT and best professional judgement	03/18/10
Added 2 standard special conditions for major permits (TMP condition and materials handling and storage condition). Pretreatment language (Significant Discharger Survey) updated	Per VPDES permit manual	03/18/10

TABLE III(b)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

N/A

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 10

EPA PERMIT CHECKLIST

Part I. Virginia Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Town of Courtland WWTP

NPDES Permit Number: VA0061859

Permit Writer Name: R. E. Smithson

Date: 03/18/10

Major [ ] **Minor** [X until CTO issued] **Industrial** [ ] **Municipal** [X] **TMDL Related**

A. Draft Permit Package Submittal Includes:	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	X		
5. Priority Pollutant Screening to determine parameters of concern?	X		
6. Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?		X	
9. Permit Rating Sheet for new or modified industrial facilities?			X

B. Permit/Facility Characteristics	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		

B. Permit/Facility Characteristics -- cont	Yes	No	N/A
3. Does the record **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?	X		
7. Does the record **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to an impaired water (i.e., 303(d) listed water)?	X		
9. Has a TMDL been developed and approved by EPA for the impaired water?		X	
10. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		X	
11. Does the facility discharge a pollutant of concern identified in the TMDL?		X	
12. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
13. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
14. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
15. Does the permit authorize discharges of storm water?		X	
16. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?	X		
17. Are there any production-based, technology-based effluent limits in the permit?		X	
18. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
19. Are any WQBELs based on an interpretation of narrative criteria?		X	
20. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	

B. Permit/Facility Characteristics -- cont	Yes	No	N/A
21. Does the permit contain a compliance schedule for any limit or condition?		X	
22. Does the permit include appropriate Pretreatment Program requirements?	X		
23. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
24. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			X
25. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
26. Has previous permit, application, and fact sheet been examined?	X		

Part IIa. NPDES Draft Permit Checklist
Region III NPDES Permit Quality Checklist – for POTWs

A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the record **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the record describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the record discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: TSS, pH and BOD (or alternative, e.g., CBOD, COD, TOC)?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
2.a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly, daily maximum) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average?		X	
5.a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering state narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		X	

D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the record provide effluent characteristics for each outfall?	X		
4. Does the record document that a "reasonable potential" evaluation was performed?	X		
4.a. If yes, does the record indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
5. Does the record describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X
6. Does the record present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
7. Does the record indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
8. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
9. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record?	X		
10. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., weekly average, maximum daily, or instantaneous) effluent limits established?	X		
11. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
12. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
1.a. If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		

E. Monitoring and Reporting Requirements cont'd	Yes	No	N/A
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity (if applicable)?			X

F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. For CSO facilities, does the permit require implementation of the "Nine Minimum Controls"?			X
6. For CSO facilities, does the permit require development and implementation of a "Long Term Control Plan"?			X
7. For CSO facilities, does the permit require monitoring and reporting for CSO events?			X

G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance
Not a defense	Monitoring and records	Transfers
Duty to mitigate	Signatory requirement	Monitoring reports
Proper O & M	Bypass	Compliance schedules
Permit actions	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part IIb. NPDES Draft Permit Checklist
Region III NPDES Permit Quality Review Checklist – For Non-POTWs
N/A

A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the record **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?			
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?			

B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the record describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?			
2. Does the record discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			

C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?			
1.a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			
1.b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?			
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?			
3. Does the record adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?			
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production: for the facility (not design)?			
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?			
5.a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?			

C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) -- cont	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily and monthly average limits?			

8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?			

D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?			
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			
3. Does the record provide effluent characteristics for each outfall?			
4. Does the record document that a "reasonable potential" evaluation was performed?			
4.a. If yes, does the record indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?			
5. Does the record describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			
6. Does the record present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			
7. Does the record indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (e.g., do calculations include ambient/background concentrations where data are available)?			
8. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			
9. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record?			
10. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, instantaneous) effluent limits established?			
11. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass concentration)?			
12. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?			

E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?			
1.a. If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?			

3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices (if applicable)?			

F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?			
1.a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			

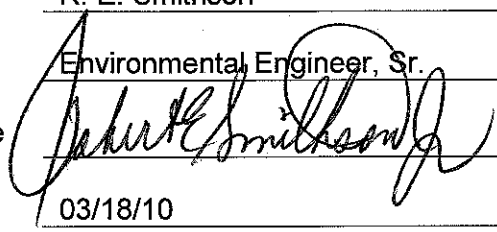
G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			
List of Standard Conditions – 40 CFR 122.41 Duty to comply Duty to reapply Need to halt or reduce activity not a defense Duty to mitigate Proper O & M Permit Actions Property rights Duty to provide information Inspections and entry Monitoring and reporting Signatory requirement Reporting requirements Planned change Anticipated noncompliance Transfers Monitoring Reports Compliance schedules 24-hour reporting Other non-compliance Bypass Upset			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?			

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department and/or made available to the Department, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name R. E. Smithson

Title Environmental Engineer, Sr.

Signature 

Date 03/18/10

ATTACHMENT 11

CHRONOLOGY SHEET

Town of Courtland WWTP
VA0061859

VPDES PERMIT PROGRAM

CHRONOLOGY OF EVENTS

APPLICATION RECEIVED	APPLICATION RETURNED	ADDITIONAL INFO REQUESTED	APPLICATION/ADD INFO DUE BACK IN RO	APPLICATION/ADD. INFO RECEIVED
01/14/10	02/04/10	02/04/10	03/04/10	02/11/10

APPLICATION TO VDH: 02/22/10	VDH COMMENTS RECEIVED: 03/01/10 ; DSS 03/10/10
APPLICATION TO OWPS: N/A	OWPS COMMENTS RECEIVED: N/A
APPLICATION ADMIN. COMPLETE: 02/11/10	APPLICATION TECH. COMPLETE: 03/10/10
DATE FORWARDED TO ADMIN:	

Date	DESCRIPTIVE STATEMENT [CHRONOLOGY OF EVENTS] (Meetings, telephone calls, letters, memos, hearings, etc. affecting permit from application to issuance)
01/14/10	Received application
02/04/10	Application reviewed for completeness; incomplete application, contacted consultant
02/11/10	Revised application received
02/22/10	Revised application sent to VDH, DSS, VMRC for comments
02/24/10	Application administratively complete as of 02/11/10- (Complete) Ltr sent to permittee
03/10/10	DSS comments received: application deemed technically complete
03/05/10	Package sent to planning for update on any tier determination changes
03/17/10	Planning comments/tier determination received
03/18/10	Draft permit & FS developed and finalized on 03/24/10
03/28/10	FS/DP routed for review
	Review completed and returned to permit writer for changes
	Changes made
4/7/10	TMP language added & package routed for comments
4/26/10	DP/FS sent to owner/planning/EPA → 5/6/10 PN authorization received from owner
5/18/10	EPA sent e-mail - no objections to draft
5/19/10	PN went to newspaper
5/21/10	1st PN ran in paper
6/21/10	30 day comment period up
6/4/10	newspaper affidavit received
6/25/10	permit signed

ATTACHMENT 12

PUBLIC PARTICIPATION INFORMATION

Smithson Jr., Smithson,Robert (DEQ) 4/22/10

To: Smith.Mark@epamail.epa.gov

Cc: Daub, Elleanore (DEQ); McConathy, James (DEQ); Sauer, Mark (DEQ)

Subject: VA0061859, Courtland and Environs WWTP, Draft Permit and Fact Sheet

Attached is the FTP site for the referenced DRAFT permit and fact sheet that is being sent to the owner to be public noticed. It will remain on the site for 30 days. ~~If we do not receive any comments within this period, we will assume EPA has no objections to the draft documents~~. Thanks.

ftp://ftp.deq.virginia.gov/wps/EPA/TRO/VA0061859/

ATTACHMENT 13

OTHER DOCUMENTS

Smithson Jr., Smithson,Robert (DEQ)

From: Smith.Mark@epamail.epa.gov
Sent: Tuesday, May 18, 2010 3:58 PM
To: Daub, Elleanore (DEQ); Smithson Jr., Smithson,Robert (DEQ)
Cc: MacKnight.Evelyn@epamail.epa.gov
Subject: Fw: VA0061859, Courtland and Environs WWTP, Draft Permit and Fact Sheet

Hello Elleanore and Robert. Based on our limited review, we have no comments related to the proposed draft permit. Thanks
----- Forwarded by Mark Smith/R3/USEPA/US on 05/18/2010 03:46 PM -----

"Smithson Jr., Smithson,Robert (DEQ)" <Robert.SmithsonJr@deq.virginia.gov>
04/22/2010 05:03 PM

To: Mark Smith/R3/USEPA/US@EPA
cc: "Daub, Elleanore (DEQ)" <Elleanore.Daub@deq.virginia.gov>, "McConathy, James (DEQ)" <James.McConathy@deq.virginia.gov>, "Sauer, Mark (DEQ)" <Mark.Sauer@deq.virginia.gov>
Subject: VA0061859, Courtland and Environs WWTP, Draft Permit and Fact Sheet

Attached is the FTP site for the referenced DRAFT permit, fact sheet (and application) that is being sent to the owner to be public noticed.
It will remain on the site for 30 days. Thanks.

ftp://ftp.deq.virginia.gov/wps/EPA/TRO/VA0061859/

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard Virginia Beach, VA 23462

SUBJECT: TMP language for Courtland & Environs WWTP (VA0061859)

TO: Robert Smithson

FROM: Deanna Austin DGA

DATE: 4/7/10

COPIES: TRO File (PPP #171)

The Courtland & Environs WWTP is going to be having plant upgrades during this permit term. The permit is set to have two different tier expansions. The first expansion is to 0.99 MGD. The second tier is an expansion to 2.5 MGD. Once the expansion to 0.99 MGD takes place, the facility will have to perform toxicity sampling at outfall 001. The pretreatment requirements begin at 0.99 MGD for this facility; therefore, based upon DEQ guidance document 00-2012, toxicity sampling will begin as well. Outfall 001 discharges to the Nottoway River.

Once the 0.99 MGD tier is in place, the facility will be required to sample both acute and chronic toxicity on an annual basis using two species, *Ceriodaphnia dubia* and *Pimephales promelas*. Sampling will begin within 6 months of the CTO for the 0.99 MGD tier. This will allow the plant to stabilize at that flow before toxicity sampling begins.

The following TMP language is recommended for the reissuance of the Courtland and Environs WWTP permit (VA0061859).

E. TOXICS MANAGEMENT PROGRAM (TMP)

1. Biological Monitoring

a. In accordance with the schedule in E.2.below, commencing within six months from the issuance of the certificate to operate (CTO) for the 0.99 MGD plant, the permittee shall conduct annual toxicity tests for the duration of the permit.

The permittee shall collect a 24-hour flow-proportioned composite sample of final effluent from outfalls 001 in accordance with the sampling methodology in Part I.A. of this permit. The composite sample for toxicity testing shall be taken at the same time as the monitoring for the outfall in Part 1.A. of this permit. Annual acute and chronic tests shall be conducted for outfall 001 using:

48 Hour Static Acute test using **Ceriodaphnia dubia**
and
48 Hour Static Acute test using **Pimephales promelas**

Chronic 3-Brood Static Renewal Survival and Reproduction Test with **Ceriodaphnia dubia**
and
Chronic 7-day Static Renewal Survival and Growth Test with **Pimephales promelas**

b. The acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for the calculation of a valid LC_{50}. Express the results as TU_a (Acute Toxic Units) by dividing 100/ LC_{50} for reporting.

The chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions, derived geometrically) to determine the "No Observed Effect Concentration" (NOEC) for survival and growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. Express the test NOEC as TU_c (Chronic Toxic Units), by dividing 100/NOEC for reporting. Report the LC50 at 48 hours and the IC25 with the NOEC's in the test report.

Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c. The permittee may provide additional samples to address data variability during the period of initial data generation. These data shall be reported and may be included in the evaluation of the effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

d. If, in the testing according to E.1., any toxicity tests that are invalidated, the tests shall be repeated within the testing period that the original test was taken, or if already past that period, within thirty (30) days of notification.

e. The test dilutions shall be able to determine compliance with the following endpoints:

(1) Acute LC_{50} of 100% equivalent to a TU_a of 1.0

(2) Chronic NOEC of 100% equivalent to a TU_c of 1.0

2. Reporting Schedule

The permittee shall report the results and supply **one** complete copy of the toxicity test reports to the Tidewater Regional Office in accordance with the schedule below. A complete report must contain a copy of all laboratory benchsheets, certificates of analysis, and all chains of custody. All data shall be submitted by the 10th of the month following sampling.

(a)	Conduct first annual acute and chronic TMP tests using Ceriodaphnia dubia and Pimephales promelas for outfall 001	
(b)	Submit results of all biological tests	By the 10th of the month following sampling but no later than January 10th of the year following sampling
(c)	Conduct subsequent annual acute and chronic TMP tests for the remainder of the permit	
(d)	Submit subsequent annual biological tests	By the 10th of the month following sampling but no later than January 10th of the year following sampling

COMMONWEALTH of VIRGINIA

Department of Health
DIVISION OF SHELLFISH SANITATION
109 Governor Street, Room 614-B
Richmond, VA 23219

Ph: 804-864-7487
Fax: 804-864-7481

MEMORANDUM

DATE: 3/10/2010

TO: Robert E. Smithson, Jr.
Department of Environmental Quality

FROM: Robert E. Croonenberghs, Ph.D., Director
Division of Shellfish Sanitation

SUBJECT: Town of Courtland Wastewater Treatment Plant

City / County: Southampton

Waterbody: Nottoway River

Type: ☑ VPDES ☐ VMRC ☐ VPA ☐ VWP ☐ JPA ☐ Other:

Application / Permit Number: VA0061859

☑ The project will not affect shellfish growing waters.

☐ The project is located in approved shellfish growing waters, however, the activity as described will not require a change in classification.

☐ The project is located in condemned shellfish growing waters and the activity, as described, will not cause an increase in the size or type of the existing closure.

☐ The project will affect condemned shellfish waters and will not cause an increase in the size of the total condemnation. However, a prohibited area (an area from which shellfish relay to approved waters for self-purification is not allowed) will be required within a portion of the currently condemned area. See comments.

☐ A buffer zone (including a prohibited area) has been previously established in the vicinity of this discharge, however, the closure will have to be revised. Map attached.

☐ This project will affect approved shellfish waters. If this discharge is approved, a buffer zone (including a prohibited area) will be established in the vicinity of the discharge. Map attached.

☐ Other.

ADDITIONAL COMMENTS:

Area #:

bks

COMMONWEALTH of VIRGINIA

KAREN REMLEY, MD., M.B.A, F.A.A.P
STATE HEALTH COMMISSIONER

J.WESLEY KLEENE, Ph. D., P.E.
DIRECTOR, Office of Drinking Water

DEPARTMENT OF HEALTH
OFFICE OF DRINKING WATER
Southeast Virginia Field Office

830 Southampton Avenue
Suite 2058
Norfolk, VA 23510
Phone (757) 683-2000
Fax (757) 683-2007

MEMORANDUM

TO: Mr. Robert E. Smithson, Jr.
Environmental Engineer Senior
Department of Environmental Quality –Tidewater Regional Office

DATE: FEB 25 2010

RECEIVED – DEQ
MAR 01 2010
Tidewater Regional Office

FROM: Daniel B. Horne, P.E.
Engineering Field Director DBH

CITY/COUNTY: Southampton County

PROJECT TYPE: ☐ New ☑ Renewal or Revision

☑ VPDES ☐ VPA ☐ VWPP ☐ JPA ☐ Other: _____

☑ Number: VA0061859

OWNER/APPLICANT: Town of Courtland

PROJECT: Courtland & Environs WWTP

☐ There are no public water supply raw water intakes located within 15 miles downstream or within one tidal cycle upstream of the discharge.

☑ The raw water intake for the city of Norfolk waterworks is located 7 miles upstream of the discharge. This should be a sufficient distance to minimize the impacts of the discharge. We recommend a minimum Reliability Class of II for this facility.

☐ The raw water intake for the _____ waterworks is located _____ miles [downstream/upstream (within one tidal cycle)] of the discharge.

☐ Please forward a copy of the Draft Permit for our review and comment.

☐ Comments: _____

Prepared by: Renee S. Hall
Renee S. Hall
District Engineer

pc: Ms. Kristen M. Lentz, P.E., Director, Department of Public Utilities, City of Norfolk
V.D.H. - Office of Drinking Water, Field Services Engineer

R:\DIST20B\Southampton County\Courtland\VPDES\Courtland WWTP VPDES memo 2010.doc

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

Francis L. Daniel
Regional Director

February 24, 2010

Mr. Michael W. Johnson
Southampton County Administrator
P. O. Box 400
Courtland, VA 23837

RE: VPDES Permit Reissuance VA0061859
Courtland & Environs WWTP
Courtland, VA

Dear Mr. Johnson:

Your revised application prepared by Timmons Group and received February 11, 2010 has been reviewed and appears to be complete. Other reviews of the application will be required by state agencies to ensure that public health and the environment will be protected.

The next steps involve assembling the information necessary to develop the permit limitations and then drafting the permit. Once the draft permit is prepared and the appropriate reviews are performed, I will transmit the draft permit and supporting documentation to you for review.

If you have any questions about our procedures or the status of your draft permit, please feel free to call me at (757) 518-2106.

Sincerely,

Robert E. Smithson
Environmental Engineer Senior

cc: DEQ PPP File #171
Timmons Group (Dan Villhauer, P.E.)

75

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

Francis L. Daniel
Regional Director

February 22, 2010

D. B. Horne, P.E.
Engineering Field Director
Virginia Department of Health
Office of Drinking Water
830 Southampton Ave., Room 2058
Norfolk, VA 23510

RE: Reissuance of VPDES Permit No. VA0061859
Town of Courtland Wastewater Treatment Plant
Southampton Co., Courtland, VA

Dear Sir:

Enclosed is a copy of the referenced VPDES permit application for your review and concurrence. A copy of this application is also being provided to the Division of Shellfish Sanitation in Richmond and VMRC in Newport News for their review and comment.

Please submit a letter to this office within 14 days with your comments or objections or a statement verifying that the Virginia Department of Health, Office of Drinking Water, has no comments on the application. You may contact me at 757-518-2106 or email at robert.smithsonjr@deq.virginia.gov if you have any questions.

Sincerely,

Robert E. Smithson, Jr.
Environmental Engineer Senior

cc: DEQ - TRO/PPP file # 171

Enclosure: Permit Application

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

Francis L. Daniel
Regional Director

February 22, 2010

Division of Shellfish Sanitation
Virginia Department of Health
109 Governor Street, Room 614B
Richmond, VA 23219

RE: Reissuance of VPDES Permit No. VA0061859
Town of Courtland Wastewater Treatment Plant
Southampton Co., Courtland, VA

Dear Sir or Madam:

Enclosed is a copy of a VPDES permit application for your review. A copy has also been sent to the VDH Office of Drinking Water and the Virginia Marine Resources Commission. Please review this application and provide your comments within 14 calendar days to DEQ identifying the location of any shellfish growing areas that would have to be condemned pursuant to Va. Code § 28.2-807 (i.e., reclassified as restricted or prohibited as defined by the National Shellfish Sanitation Program) as a result of the proposed discharge of pollutants described in the application. Alternatively, you may respond to DEQ within 14 calendar days of receipt of the application that DSS intends to conduct a further evaluation of the proposed discharge site. If DSS intends to conduct a further evaluation, please provide your comments to DEQ within 30 calendar days after receipt of the application. In the event that DSS anticipates that, due to the complexity of a proposal or the scope of an evaluation, it will not be able to make a determination within 30 calendar days after receipt of the application, please, within 14 days of receipt, inform DEQ of the anticipated time required to further evaluate the application. These deadlines are specified in the agreement between the Director of DEQ and the Commissioner of the Virginia Department of Health to ensure that DEQ can process the permit in a timely manner.

Please also provide a copy of any correspondence relative to this application to the Virginia Marine Resources Commission at the following address:

Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News, VA 23607

If you have any questions, please do not hesitate to contact me by telephone at (757) 518-2106 or by e-mail at resmithson@deq.virginia.gov.

Sincerely,

Robert E. Smithson, Jr.
Environmental Engineer Senior

Enclosure: VPDES Permit Application
cc: TRO PPP File # 171

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Doug Domenech
Secretary of Natural Resources

David K. Paylor
Director

Francis L. Daniel
Regional Director

February 22, 2010

Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News, VA 23607

RE: Reissuance of VPDES Permit No. VA0061859
Town of Courtland Wastewater Treatment Plant
Southampton Co., Courtland, VA

Dear Sir or Madam:

Enclosed for your review is a copy of a VPDES permit application for a proposed discharge of pollutants from a point source to state waters adjacent to, or in near proximity to, shellfish growing areas. A copy of this application has also been sent to the Virginia Department of Health's Division of Shellfish Sanitation (DSS), and VDH's Office of Drinking Water. Further, DSS has been requested to copy VMRC on correspondence relative to this application.

Please review the application and DSS correspondence. If DSS notifies you that no condemnation of shellfish growing areas would be necessary as a result of the proposed discharge, then VMRC is not required to take any further action.

If DSS indicates in its correspondence that shellfish growing areas will have to be condemned (i.e., reclassified as restricted or prohibited as defined by the National Shellfish Sanitation Program) as a result of the proposed discharge, please fill out the attached certification form and send it to DEQ within 21 days of receipt of the DSS comments.

Alternatively, VMRC may respond to DEQ that more information is needed and that VMRC either intends to or does not intend to perform a field evaluation. If VMRC notifies DEQ that more information is needed and that it intends to perform a field evaluation, VMRC agrees to certify to DEQ within 30 calendar days after receipt of the notice that the condemnation will or will not have an effect on shellfish use now and in the foreseeable future. If VMRC certifies to DEQ that more information is needed and that it does not intend to perform a field evaluation, DEQ will contact the permit applicant to allow the applicant the option of obtaining a field evaluation of the areas proposed for condemnation. If VMRC receives a field evaluation from the applicant, please review the evaluation and fill out the attached certification form and send it to DEQ within 21 days of receipt of the evaluation

These deadlines are specified in an agreement between the Director of DEQ and the Commissioner of VMRC to ensure that DEQ can process the permit in a timely manner. If you have any questions, please do not hesitate to contact me by telephone at (757) 518 – 2106 or by e-mail at robert.smithsonjr@deq.virginia.gov.

Sincerely,

Robert E. Smithson, Jr.
Environmental Engineer Senior

Enclosure: VPDES Permit Application, Certification Form
cc: DSS, TRO PPP File # 171

Virginia Marine Resources Commission
Evaluation and Certification on the Effects of Proposed Shellfish Condemnation
VPDES Permit Number: VA0061859
Facility Name: Town of Courtland Waste Water Treatment Plant
Facility Location: Courtland, VA
Description of the designated area:

Presence or Absence of Shellfish; Identification of Species; Results of Survey:

Commercial Harvest Rates:

Private Oyster Ground Leases/Public Ground Designations:

Physical Parameters:

In accordance with 9 VAC 25-260-270, MRC has reviewed the above information for the VPDES application referenced above, and DSS information on shellfish growing areas that will be condemned (i.e. reclassified as restricted or prohibited as defined by the National Shellfish Sanitation Program) if the VPDES permit is issued for this discharge, and concludes the proposed condemnation will have the following effects on the shellfish use now and in the foreseeable future:

Signed: _____

Title: _____

Date: _____

This certification is intended to provide factual information to DEQ required by 9 VAC 25-260-270. This is not a final determination or case decision under the Virginia Administrative Process Act applicable to the above-mentioned facility or VPDES permit application. The final decision to issue or deny the VPDES permit application is within the discretion of the State Water Control Board.

Smithson Jr., Smithson,Robert (DEQ)

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From: Smithson Jr., Smithson,Robert (DEQ)
Sent: Tuesday, February 23, 2010 10:59 AM
To: Skiles, Keith (VDH)
Subject: FW: Permit Application for Review-Permit # VA0061859, Courtland WWTP

From: Smithson Jr., Smithson,Robert (DEQ)
Sent: Tuesday, February 23, 2010 10:56 AM
To: Horne, Daniel (VDH); 'Skiles, Keith (VDH)'; Howell, Beth (MRC); Stagg, Ben (MRC)
Subject: Permit Application for Review-Permit # VA0061859, Courtland WWTP

Attached is a link to the FTP site to access a permit application for your review. Under the folder for the facility listed above on the FTP site, there is a letter for each agency and the permit application, which may be in one or more files. Please pull the information that you need off the FTP site. The letters and application will remain available for no longer than 30 days. If you have any issues with the FTP site or if you have any questions, please contact me.

ftp://ftp.deq.virginia.gov/wps/PERMIT/TRO/VDH,%20DSS,%20VMRC%20For%20Review/VA0061859%20Town%20of%20Courtland%20WWTP/

Smithson Jr., Smithson,Robert (DEQ)

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From: Smithson Jr., Smithson,Robert (DEQ)
Sent: Thursday, February 04, 2010 4:26 PM
To: 'Dan Villhauer'
Cc: McConathy, James (DEQ)
Subject: Town of Courtland VPDES Application for Reissuance

Dan, this will document our discussion this afternoon concerning the ***minor changes, additions or corrections needed in the referenced application*** received January 14, 2010.

We discussed corrections to the town population served (also needed in sludge section pg.2 of 16, item g)

Revisit item A.11: Description of Treatment to reflect tertiary treatment with phosphorous and nitrogen removal % and explain UV vs. chlorine disinfection. UV
disinfection will probably come online in June 2010?

Tab D needs content
Tab F needs line drawing with explanation of unit addition elaborations in final tier
Tab H is missing (sludge contact and/or analyses submitted)

You advised me that you will submit corrected hard copy and CD sometime next week. Thanks.

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2103
www.deq.virginia.gov

L. Preston Bryant, Jr
Secretary of Natural Resources

David K. Paylor
Director

Francis L. Daniel
Regional Director

July 20, 2009

Mr. Michael W. Johnson, County Administrator
Southampton County
P. O. Box 400.
Courtland, Va. 23837

Re: Reissuance of VPDES Permit No. VA0061859
Courtland and Environs Wastewater Treatment Plant
Courtland, VA

Dear Mr. Johnson:

This letter is to remind you that your VPDES permit will expire on July 30, 2010.

If you wish to continue discharging, you must reapply for the permit. The State Water Control Board's VPDES Permit Regulation requires that we receive a complete application at least 180 days before the existing permit expires. **The deadline for submitting the application is January 31, 2010.** Early submissions are welcome and will better enable us to complete processing before permit expiration. The instructions and application forms are enclosed. The forms are also available online at the following address: http://www.deq.virginia.gov/vpdes/permitfees.html .

If you would like to request a waiver from any of the sampling or testing requirements in the application forms, you must submit your application and a thorough justification for the request at least 240 days prior to the existing permit's expiration date. These waiver requests must be approved by DEQ and the U. S. EPA at least 180 days before the existing permit expires. DEQ will review your waiver request and, if it is justified, forward it to EPA. Failure to submit the waiver request by the 240-day deadline will result in the waiver being denied.

Upon completing the application, return the original and five copies to the Tidewater Regional Office at the above address. If you have the technology available however, we would prefer that the original signature application and a disk/CD or an e-mail with the application attached be submitted. This would eliminate the requirement of submitting five copies.

We have also enclosed a pamphlet on Electronic DMR submittal and are encouraging all facilities to consider using this system for your DMR reporting.

There is no application fee associated with this re-issuance process. The legislature developed a new fee structure effective July 1, 2004, that eliminated application fees for VPDES and VPA permits. In place of the application fee, the new regulation imposes an annual permit fee. You will be billed by DEQ in the fall of each year. Please call me at (757) 518-2106 if you have any questions.

Sincerely,

Robert E. Smithson, Jr.
Environmental Engineer Senior

Encl: Application
cc: DEQ-TRO File PPT# 171

PERMITTEE NAME/ADDRESS(INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME Courtland Town - Wastewater Treatment Plant
ADDRESS PO Box 400
Courtland VA 23837
FACILITY LOCATION 24448 Old Bridge Rd, Courtland, VA 23837

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM(NPDES)
DISCHARGE MONITORING REPORT(DMR)

VA0061859	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

Municipal Major 04/01/2010

DEPT. OF ENVIRONMENTAL QUALITY
(REGIONAL OFFICE)
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach VA 23462

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTD				*********	*********	*********				
	REQRMNT	0.303	NL	MGD	*********	*********	*********			CONT	REC
002 PH	REPORTD	*********	*********			*********					
	REQRMNT	*********	*********		6.0	*********	9.0	SU		1/DAY	GRAB
003 BOD5	REPORTD				*********						
	REQRMNT	34	52	KG/D	*********	30	45	MG/L		3D/W	8HC
004 TSS	REPORTD				*********						
	REQRMNT	34	52	KG/D	*********	30	45	MG/L		3D/W	8HC
007 DO	REPORTD	*********	*********			*********	*********				
	REQRMNT	*********	*********		6.0	*********	*********	MG/L		1/DAY	GRAB
012 PHOSPHORUS, TOTAL (AS P)	REPORTD	*********			*********	*********					
	REQRMNT	*********	NL	KG/D	*********	*********	NL	MG/L		1/3M	8HC
013 NITROGEN, TOTAL (AS N)	REPORTD	*********			*********	*********					
	REQRMNT	*********	NL	KG/D	*********	*********	NL	MG/L		1/3M	8HC
039 AMMONIA, AS N	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	5.6	5.6	MG/L		1/M	8HC

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS
QLs: BOD5= 5 mg/l; TSS= 1.0 mg/l; Ammonia-N= 0.20 mg/l; Tot. Nitrogen= 0.50 mg/l; TKN=0.50 mg/l; Tot. Phosphorus= 0.10 mg/l; Cl2= 0.10 mg/l; Zn= 27 ug/l

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OPERATOR IN RESPONSIBLE CHARGE			DATE		
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

PERMITTEE NAME/ADDRESS(INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME Courtland Town - Wastewater Treatment Plant
ADDRESS PO Box 400
Courtland VA 23837
FACILITY LOCATION 24448 Old Bridge Rd, Courtland, VA 23837

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM(NPDES)
DISCHARGE MONITORING REPORT(DMR)

VA0061859	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

Municipal Major 04/20/2010

DEPT. OF ENVIRONMENTAL QUALITY
(REGIONAL OFFICE)
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach VA 23462

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
120 E.COLI	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	126	235	#100M		1/W	GRAB
157 CL2, TOTAL CONTACT	REPORTD	*********	*********			*********	*********				
	REQRMNT	*********	*********		1.0	*********	*********	MG/L	9	3/DAY	GRAB
158 CL2, TOTAL FINAL	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	.015	.018	MG/L	0	1/DAY	GRAB
196 ZINC, TOTAL RECOVERABLE	REPORTD										
	REQRMNT	.077	.077	KG/D		67	67	UG/L		1/M	8HC
213 CL2, INST TECH MIN LIMIT	REPORTD	*********	*********			*********	*********				
	REQRMNT	*********	*********		0.6	*********	*********	MG/L		3/DAY	GRAB
	REPORTD										
	REQRMNT									*******	
	REPORTD										
	REQRMNT									*******	
	REPORTD										
	REQRMNT									*******	

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS
QLs: BOD5= 5 mg/l; TSS= 1.0 mg/l; Ammonia-N= 0.20 mg/l; Tot. Nitrogen= 0.50 mg/l; TKN=0.50 mg/l; Tot. Phosphorus= 0.10 mg/l; Cl2= 0.10 mg/l; Zn= 27 ug/l

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OPERATOR IN RESPONSIBLE CHARGE			DATE		
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

58

PERMITTEE NAME/ADDRESS(INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME Courtland Town - Wastewater Treatment Plant
ADDRESS PO Box 400
Courtland VA 23837
FACILITY LOCATION 24448 Old Bridge Rd, Courtland, VA 23837

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM(NPDES)
DISCHARGE MONITORING REPORT(DMR)

VA0061859	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

Municipal Major 04/20/2010

DEPT. OF ENVIRONMENTAL QUALITY
(REGIONAL OFFICE)
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach VA 23462

NOTE: **READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.**

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTD				*********	*********	*********				
	REQRMNT	0.99	NL	MGD	*********	*********	*********			CONT	REC
002 PH	REPORTD	*********	*********			*********					
	REQRMNT	*********	*********		6.0	*********	9.0	SU		1/DAY	GRAB
003 BOD5	REPORTD				*********						
	REQRMNT	38	56	KG/D	*********	10	15	MG/L		3D/W	8HC
004 TSS	REPORTD				*********						
	REQRMNT	38	56	KG/D	*********	10	15	MG/L		3D/W	8HC
007 DO	REPORTD	*********	*********			*********	*********				
	REQRMNT	*********	*********		6.0	*********	*********	MG/L		1/DAY	GRAB
012 PHOSPHORUS, TOTAL (AS P)	REPORTD	*********			*********	*********					
	REQRMNT	*********	NL	KG/D	*********	*********	NL	MG/L		1/M	8HC
013 NITROGEN, TOTAL (AS N)	REPORTD	*********			*********	*********					
	REQRMNT	*********	NL	KG/D	*********	*********	NL	MG/L		1/M	8HC
068 TKN (N-KJEL)	REPORTD				*********						
	REQRMNT	11	17	KG/D	*********	3.0	4.5	MG/L		3D/W	8HC

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS
QLs: BOD5= 5 mg/l; TSS= 1.0 mg/l; Ammonia-N= 0.20 mg/l; Tot. Nitrogen= 0.50 mg/l; TKN=0.50 mg/l; Tot. Phosphorus= 0.10 mg/l; Cl2= 0.10 mg/l; Zn= 27 ug/l

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OPERATOR IN RESPONSIBLE CHARGE			DATE		
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

PERMITTEE NAME/ADDRESS(INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME Courtland Town - Wastewater Treatment Plant
ADDRESS PO Box 400
Courtland VA 23837
FACILITY LOCATION 24448 Old Bridge Rd, Courtland, VA 23837

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM(NPDES)
DISCHARGE MONITORING REPORT(DMR)

Municipal Major 04/20/2010

DEPT. OF ENVIRONMENTAL QUALITY (REGIONAL OFFICE)
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach VA 23462

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

VA0061859	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
120 E.COLI	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	126	235	#100M		1/W	GRAB
157 CL2, TOTAL CONTACT	REPORTD	*********	*********			*********	*********				
	REQRMNT	*********	*********		1.0	*********	*********	MG/L	9	3/DAY	GRAB
158 CL2, TOTAL FINAL	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	.015	.018	MG/L	0	1/DAY	GRAB
196 ZINC, TOTAL RECOVERABLE	REPORTD										
	REQRMNT	.077	.077	KG/D		67	67	UG/L		1/M	8HC
213 CL2, INST TECH MIN LIMIT	REPORTD	*********	*********			*********	*********				
	REQRMNT	*********	*********		0.6	*********	*********	MG/L		3/DAY	GRAB
	REPORTD										
	REQRMNT									*******	
	REPORTD										
	REQRMNT									*******	
	REPORTD										
	REQRMNT									*******	

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BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)

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TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY